Self Diagnosis Supported model

SERVICE MANUAL

BX-1L CHASSIS

MODEL	COMMANDER	DEST	CHASSIS NO.
KV-29SE10B	RM-EA005	FR	SCC-V53A-A
KV-29SE10E	RM-EA005	ESP	SCC-V51A-A
KV-29SE10K	RM-EA005	OIRT	SCC-V52A-A

FD Trinitron

KV-29SE10

RM-EA005

TRINITRON ® COLOR TV

SONY ®

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CAUTION

SHORT CIRCUIT THE ANODE OF THE PICTURE TUBE AND THE ANODE CAP TO THE METAL CHASSIS, CRT SHIELD, OR THE CARBON PAINTED ON THE CRT, AFTER REMOVAL OF THE ANODE CAP.

WARNING !!

AN ISOLATION TRANSFORMER SHOULD BE USED DURING ANY SERVICE WORK TO AVOID POSSIBLE SHOCK HAZARD DUE TO LIVE CHASSIS, THE CHASSIS OF THIS RECEIVER IS DIRECTLY CONNECTED TO THE POWER LINE.

SAFETY-RELATED COMPONENT WARNING !!

COMPONENTS IDENTIFIED BY SHADING AND MARKED ⚠ ON THE SCHEMATIC DIAGRAMS, EXPLODED VIEWS AND IN THE PARTS LIST ARE CRITICAL FOR SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

ATTENTION

APRES AVOIR DECONNECTE LE CAP DE'LANODE, COURT-CIRCUITER L'ANODE DU TUBE CATHODIQUE ET CELUI DE L'ANODE DU CAP AU CHASSIS METALLIQUE DE L'APPAREIL, OU AU COUCHE DE CARBONE PEINTE SUR LE TUBE CATHODIQUE OU AU BLINDAGE DU TUBE CATHODIQUE.

ATTENTION !!

AFIN D'EVITER TOUT RISQUE D'ELECTROCUTION PROVENANT D'UN CHÁSSIS SOUS TENTION, UN TRANSFORMATEUR D'ISOLEMENT DOIT ETRE UTILISÈ LORS DE TOUT DÈPANNAGE LE CHÁSSIS DE CE RÈCEPTEUR EST DIRECTMENT RACCORDÈ Á L'ALIMENTATION SECTEUR.

ATTENTION AUX COMPOSANTS RELATIFS Á LA SECURITÈ!!

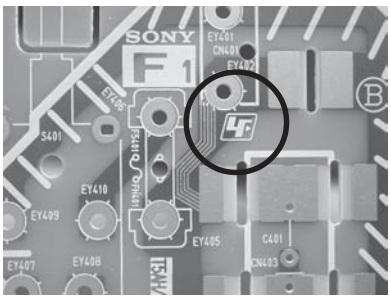
LES COMPOSANTS IDENTIFIÈS PAR UNE TRAME ET PAR UNE MARQUE ⚠ SUR LES SCHÈMAS DE PRINCIPE, LES VUES EXPLOSÈES ET LES LISTES DE PIECES SONT D'UNE IMPORTANCE CRITIQUE POUR LA SÈCURITÈ DU FONCTIONNEMENT, NE LES REMPLACER QUE PAR DES COMPSANTS SONY DONT LE NUMÈRO DE PIÈCE EST INDIQUÈ DANS LE PRÈSENT MANUEL OU DANS DES SUPPLÈMENTS PUBLIÈS PAR SONY.

CAUTION

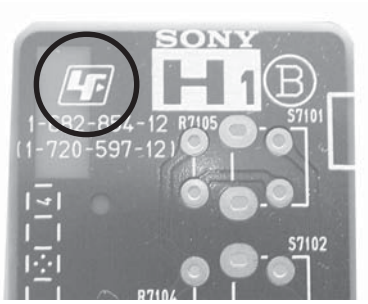
Lead Free Soldered Boards

The circuit boards used in these models have been processed using Lead Free Solder. The boards are identified by the LF logo located close to the board designation e.g. F1, H1 etc [see examples]. The servicing of these boards requires special precautions to be taken as outlined below.

example 1



example 2



It is strongly recommended to use Lead Free Solder material in order to guarantee optimal quality of new solder joints. Lead Free Solder is available under the following part numbers :

Partnumber	Diameter	Remarks
7-640-005-19	0.3mm	0.25Kg
7-640-005-20	0.4mm	0.50Kg
7-640-005-21	0.5mm	0.50Kg
7-640-005-22	0.6mm	0.25Kg
7-640-005-23	0.8mm	1.00Kg
7-640-005-24	1.0mm	1.00Kg
7-640-005-25	1.2mm	1.00Kg
7-640-005-26	1.6mm	1.00Kg

Due to the higher melting point of Lead Free Solder the soldering iron tip temperature needs to be set to 370 degrees centigrade. This requires soldering equipment capable of accurate temperature control coupled with a good heat recovery characteristics.

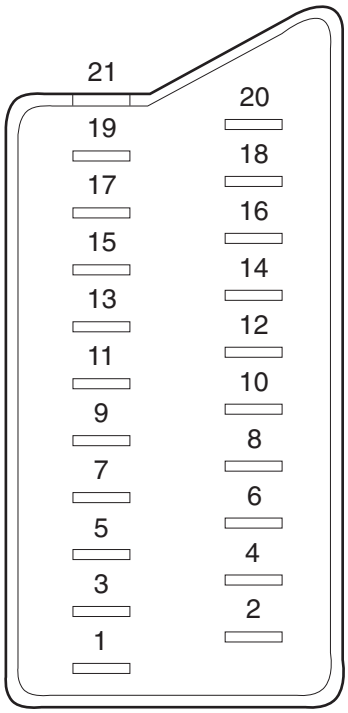
For more information on the use of Lead Free Solder, please refer to *http://www.sony-training.com*

ITEM MODEL	Television System	Stereo System	Channel Coverage	Color System
B	B/G/H, D/K, I, L	GERMAN/NICAM Stereo	VHF : E2-E12, R1-R12, S01-S03, F02-F10 , B-Q UHF : E21-E69, F21-F69, B21-B69, R21-R69 CABLE TV : S01-S20 HYPER : S21-S41	PAL, SECAM NTSC4.43, NTSC3.58 (VIDEO IN)
E	B/G/H, D/K	GERMAN/NICAM Stereo	VHF : E2-E12, R1-R12, S01-S03, UHF : E21-E69, R21-R69 CABLE TV : S01-S20 HYPER : S21-S41	PAL, SECAM NTSC4.43, NTSC3.58 (VIDEO IN)
K	B/G/H, D/K	GERMAN/NICAM Stereo	VHF : E2-E12, R1-R12 , S01-S03 UHF : E21-E69, R21-R69 CABLE TV : S01-S20 HYPER : S21-S41	PAL, SECAM NTSC4.43, NTSC3.58 (VIDEO IN)

Picture Tube	Flat Display FD Trinitron WIDE: Approx 73 cm (29 inches)	**Sound output**		
		Right and Left speaker	2x12W (Music Power) 2x6W (RMS)	
Input/Output Terminals [REAR]		**General Specifications**		
1: 21-pin Euro connector (CENELEC standard)	Inputs for Audio and Video signals. Inputs for RGB. Outputs of TV Video and Audio signals.	Power Requirements	220 - 240V	
		Power Consumption	130W/ <1W	
		Dimensions	Approx 776x595x521mm	
2: 21-pin Euro connector (CENELEC standard)	Inputs for Audio and Video signals. Inputs for S Video. Outputs of TV Video and Audio signals. (selectable) Smartlink Interface	Weight	Approx 45kg	
		Supplied Accessories	RM-EA005 Remote Commander (1) IEC designated R6 battery (2)	
		Other Features	Teletext, Sleep Timer, On Timer, TV System Autodetection	
Input/Output Terminals [FRONT]		**Remote Control System : Infrared Control**		
Headphone jack	stereo mini jack	Power requirements	3V dc 2 batteries IEC designation R6 (size AA)	
Audio inputs	phono jacks			
Video inputs	phono jacks			
Design and specifications are subject to change without notice.				

Model Name Item	KV-29SE10B	KV-29SE10E	KV-29SE10K
Pal Comb	ON	ON	ON
PAP	OFF	OFF	OFF
RGB Priority	ON	ON	ON
Woofer Box	OFF	OFF	OFF
Scart 1	ON	ON	ON
Scart 2	ON	ON	ON
Scart 3	OFF	OFF	OFF
Front in (3)	ON	ON	ON
Scart 4	OFF	OFF	OFF
Projector	OFF	OFF	OFF
Norm B/G	ON	ON	ON
Norm I	ON	OFF	OFF
Norm D/K	ON	ON	ON
Norm AUS	OFF	OFF	OFF
Norm L	ON	OFF	OFF
Norm SAT	OFF	OFF	OFF
Norm M	OFF	OFF	OFF
Teletext	ON	ON	ON
Nicam Stereo	ON	ON	ON

21 pin connector

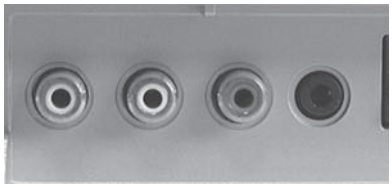


Pin No	1	2	3	Signal	Signal level
1	○	○	○	Audio output B (right)	Standard level : 0.5V rms Output impedence : Less than 1kohm*
2	○	○	○	Audio input B (right)	Standard level : 0.5V rms Output impedence : More than 10kohm*
3	○	○	○	Audio output A (left)	Standard level : 0.5V rms Output impedence : Less than 1kohm*
4	○	○	○	Ground (audio)	
5	○	○	○	Ground (blue)	
6	○	○	○	Audio input A (left)	Standard level : 0.5V rms Output impedence : More than 10kohm*
7	○	●	●	Blue input	0.7 +/- 3dB, 75 ohms positive
8	○	○	○	Function select (AV control)	High state (9.5-12V) : Part mode Low state (0-2V) : TV mode Input impedence : More than 10K ohms Input capacitance : Less than 2nF
9	○	○	○	Ground (green)	
10	○	○	○	Open	
11	○	●	●	Green	Green signal : 0.7 +/- 3dB, 75 ohms, positive
12	○	○	○	Open	
13	○	○	○	Ground (red)	
14	○	○	○	Ground (blanking)	
15	○	–	–	Red input	0.7 +/- 3dB, 75 ohms, positive
	–	○	○	(S signal Chroma input)	0.3 +/- 3dB, 75 ohms, positive
16	○	●	●	Blanking input (Ys signal)	High state (1-3V) Low state (0-0.4V) Input impedence : 75 ohms
17	○	○	○	Ground (video output)	
18	○	○	○	Ground (video input)	
19	○	○	○	Video output	1V +/- 3dB, 75ohms, positive sync 0.3V (-3+10dB)
20	○	–	–	Video input	1V +/- 3dB, 75ohms, positive sync 0.3V (-3+10dB)
	–	○	○	Video input Y (S signal)	1V +/- 3dB, 75ohms, positive sync 0.3V (-3+10dB)
21	○	○	○	Common ground (plug, shield)	

○ Connected ● Not Connected (open) * at 20Hz - 20kHz

Rear Connection Panel

Front Connection Panel



BX-1L SELF DIAGNOSTIC SOFTWARE

BX-1L chassis TV's contain a self diagnosis function. In the event of an error occurring, the STANDBY LED indicator will automatically begin to flash. The number of times the STANDBY LED indicator flashes translates to a probable source of the problem. If an error symptom cannot be reproduced, the remote commander can be used to review the failure occurrence data stored in memory to reveal past problems and how often these problems occur.

1. DIAGNOSTIC TEST INDICATORS

When an error occurs, the STANDBY indicator will flash a set number of times to indicate the possible cause of the problem. If there is more than one error, the indicator will identify the first of the problem areas.

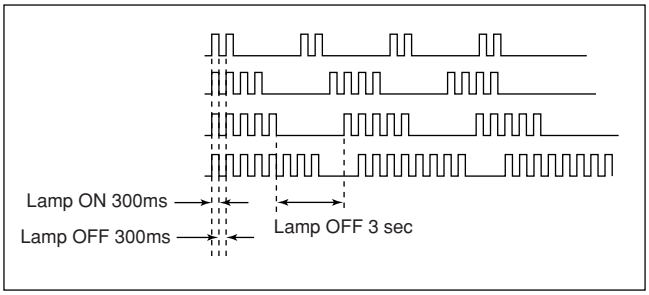
The result for all of the following diagnosis items are displayed on screen. No error has occured if the screen displays a "0".

Diagnosis Item Description	No. of timer STANDBY (⏻) indicator flashes	Self-Diagnostic display/ Diagnosis result	Probable Cause Location	Detected Symptoms
Power does not turn on	Does not light	–	• Power cord is not plugged in. • Fuse is burned out (F4601) A board.	• Power does not come on. • No power is supplied on TV. • AC Power supply is faulty.
+B overcurrent (OCP)*	2 times	2:0 or 2:1 ~ 255	• H OUT (Q511) is shorted. (A board) • IC751 is shorted. (C board)	• Power does not come on. • Load on power line is shorted.
V-Protect	4 times	4:0 or 4:1 ~ 255	• +13V is not supplied. (A board) • IC503 is faulty. (A board)	• Has entered standby state after horizontal raster. • Vertical deflection pulse is stopped. • Power line is shorted or power supply is shorted.
IK (AKB)	5 times	5:0 or 5:1 ~ 255	• Video OUT (IC751) is faulty. (C board) • IC001 is faulty. (A board) • Screen (G2) is improperly adjusted.**	• No raster is generated. • CRT Cathode current detection reference pulse output is small.
HV Protect	8 times	8:0 or 8:1 ~ 255	• IC604 faulty. • IC602 faulty.	• No power supply to CRT ANODE. • No RASTER is generated.

* If a+B overcurrent is detected, then the vertical deflection is detected simultaneously. The symptom that is diagnosed first by the micro controller is displayed on the screen.

** Refer to Screen (G2) Adjustment on page 19.

2. DISPLAY OF STANDBY INDICATOR FLASH COUNT



Diagnostic Item	Flash Count
+B Overcurrent	2 flashes
V-Protect	4 flashes
IK (AKB)	5 flashes
HV Protect	8 flashes

* One flash count is not used for self-diagnosis.

3. STOPPING THE STANDBY INDICATOR FLASH

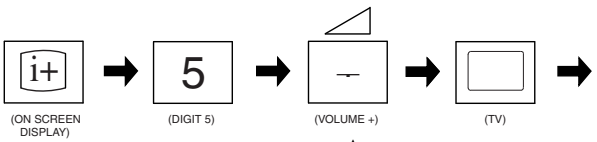
Turn off the power switch on the TV to stop the STANDBY indicator from flashing.

4. SELF-DIAGNOSTIC SCREEN DISPLAY

For errors with symptoms such as “power sometimes shuts off” or “screen sometimes goes off” that cannot be confirmed, it is possible to bring up past occurrences of failure on the screen for confirmation.

To bring up the screen test

In standby mode, press buttons on the remote commander sequentially in rapid sucession as shown below:



Note that this differs from entering the service mode (volume [+])

The following screen will be displayed indicating the error count.

ERROR MENU

2:	0
3:	N/A
4:	0
5:	1
8:	0
101:	N/A

WORKING TIME

HOURS	142
MINUTES	32

Numeral “0” means that no fault was detected.
Numeral “1” means the number of a fault occurrence (1 ~ 255).

To clear the error display count press “8” then “0” on the remote commander.

To exit the self-diagnostic screen, turn off the power switch on the TV set.

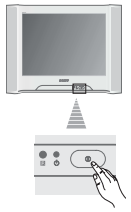
The operating instructions mentioned here are partial abstracts from the 'Operating Instruction Manual'. The page numbers of the 'Operating Instruction Manual' remain as in the manual.

Switching on the TV and Automatically Tuning

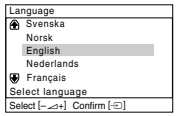
The first time you switch on your TV, a sequence of menu screens appear on the TV enabling you to: 1) choose the language of the menu screen, 2) choose the country in which you wish to operate the TV, 3) search for and store all available channels (TV Broadcasts), 4) change the order in which the channels (TV Broadcasts) appear on the screen and 5) adjust the picture slant.
However, if you need to change any of these settings at a later date, you can do that by selecting the appropriate option in the (Set Up) or (Channel Set Up) menu.

1 Connect the TV plug to the mains socket (220-240V AC, 50Hz). Press the on/off button on the TV set to turn on the TV.

The first time you switch on the TV, a **Language** menu appears automatically on the TV screen.

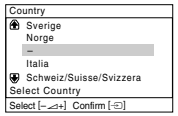


2 Press the ▼ or ▲ button on the remote control to select the language, then press the **OK** button to confirm your selection. From now on all the menus will appear in the selected language.



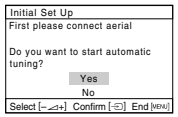
3 The **Country** menu appears automatically on the TV screen. Press the ▲ or ▼ button to select the country in which you will operate the TV set, then press the **OK** button to confirm your selection.

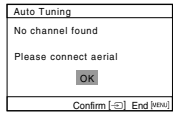
- If the country in which you want to use the TV set does not appear in the list, select "-" instead of a country.
- In order to avoid wrong teletext characters for Cyrillic languages we recommend you select Russia as the country if your own country does not appear in the list.



4 Ensure the aerial is connected as instructed (see page 6), then press the **OK** button to confirm. The TV automatically starts searching and storing all available broadcast channels for you.

- This procedure could take some minutes. Please be patient and do not press any buttons, otherwise automatic tuning will not be completed.
- If no channels were found during the auto tuning process, a new menu appears automatically on the screen asking you connect the aerial. Please connect the aerial (see page 6) and press the **OK** button. The auto tuning process will start again.

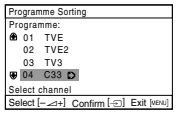




continued...

Switching on the TV and Automatically Tuning

5 After all available channels are captured and stored, the **Programme Sorting** menu appears automatically on the screen enabling you to change the order in which the channels appear on the screen.

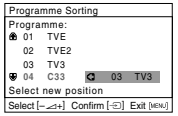


a) If you wish to keep the broadcast channels in their tuned order, press MENU.

b) If you wish to store the channels in a different order:

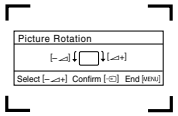
1 Press the ▲ or ▼ button to select the programme number with the channel (TV Broadcast) you wish to rearrange, then press the **OK** button.

2 Press the ▲ or ▼ button to select the new programme number position for your selected channel (TV Broadcast), then press the **OK** button.



3 Repeat steps b)1 and b)2 if you wish to change the order of the other channels.

6 Because of the earth's magnetism, the picture might slant. The **Picture Rotation** menu allows you to correct the picture slant if it is necessary.



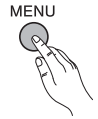
a) If it is not necessary, press the **OK** button.

b) If it is necessary, press the ▲ or ▼ button button to correct any slant of the picture. Finally press the **OK** button to store.

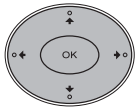
Your TV is now ready for use.

Your TV uses an on-screen menu system to guide you through the operations. Use the following buttons on the Remote Control to operate the menu system:

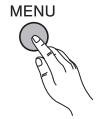
1 Press **MENU** to switch the menu on.



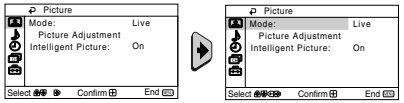
2
- To highlight the desired menu or option, press ▲ or ▼ button.
- To enter to the selected menu or option, press ►.
- To return to the last menu or option, press ◄.
- To alter the settings of your selected option, press ▲/▼/◄ or ►.
- To confirm and store your selection, press the **OK** button.



3 Press **MENU** to remove the menu from the screen.



Picture



The “Picture” menu allows you to alter the picture adjustments.

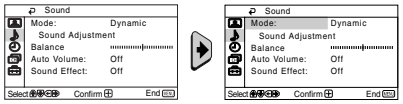
To do this:
After selecting the item you want to alter, press ►, then press ▼/▲/◄ or ► repeatedly to adjust and finally press **OK** to store the new adjustments.

This menu also allows you to customise the picture mode based on the programme you are watching:

Mode		**Live** (for enhanced picture contrast and sharpness). **Movie** (for a finely detailed picture). **Game** (for a picture from a game). **Personal** (for your own custom settings).
Picture Adjustment	**Contrast**	Press ▼ or ◄ to reduce picture contrast. Press ▲ or ► to enhance picture contrast.
	Brightness	Press ▼ or ◄ to darken the picture. Press ▲ or ► to brighten the picture.
	Colour	Press ▼ or ◄ to decrease colour intensity. Press ▲ or ► to increase colour intensity.
	Hue	Press ▼ or ◄ to decrease the green tones. Press ▲ or ► to increase the green tones. **Hue** can only be adjusted for NTSC colour signal (e.g. USA video tapes).
	Sharpness	Press ▼ or ◄ to soften the picture. Press ▲ or ► to sharpen the picture.
	Reset	Select **OK** to reset the picture to the factory preset levels.
Intelligent Picture	**On/Off**	Select to optimize the picture quality. E.g. reduce noise level when signal is weak.

GB

Sound

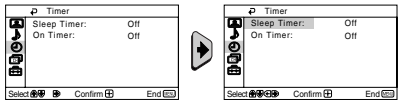


The “Sound” menu allows you to alter the sound adjustments.

To do this:
After selecting the item you want to alter, press ►, then press ▼/▲/◄ or ► repeatedly to adjust and finally press **OK** to store it.

Mode		**Dynamic** (dynamic and clear sound that emphasizes both the low and high tones). **Drama** (sound that emphasizes voice and high tones). **Soft** (soft, natural and relaxing sound). **Personal** (flat and smooth sound that can be customized by users).
Sound Adjustment	**Treble**	Press ▼ or ◄ to decrease higher-frequency sounds. Press ▲ or ► to increase higher-frequency sounds.
	Bass	Press ▼ or ◄ to decrease lower-frequency sounds. Press ▲ or ► to increase lower-frequency sounds.
	Reset	Select **OK** to reset the sound to the factory preset.
Balance		Press ▼ or ◄ to emphasize the left speaker. Press ▲ or ► to emphasize the right speaker.
Auto Volume		**On/Off** Volume level of the channels will stay the same, independent of the broadcast signal (e.g. in the case of advertisements).
Sound Effect		**Off** (normal). **Spatial** (simulated stereo-like sound quality for mono programmes). **Surround** (add surround effect to stereo programmes).

Timer



The “Timer” menu allows you to alter the timer adjustments.

Sleep Timer

The “Sleep Timer” option in the “Timer” menu allows you to select a time period for the TV to switch itself automatically into the standby mode.

To do this:
After selecting the option, press ➡, then press ⬆ or ⬇ to set the time period delay (max. of 1 hour 30 minutes) and finally press **OK** to store.

- While watching the TV, you can press the i+ button on the remote control to display the time remaining.
- One minute before the TV switches itself into standby mode “TV will turn off soon” is displayed on the TV screen automatically.

On Timer

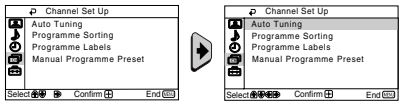
The “On Timer” option in the “Timer” menu allows you to select a time period for the TV to switch itself automatically on from standby mode.

To do this:
After selecting the option, press ➡, then press ⬆ or ⬇ to set the time period delay (max. of 12 hours) and finally press **OK** to store. Finally press the standby button **I/⏻** on the remote control. After the selected length of time, the TV switches on automatically and “On Timer” will appear on the screen.

- Any loss of power will cause these settings to be cleared.
- If no buttons are pressed for more than one hour after the TV is turned on using the “On Timer”, the TV automatically goes into standby mode.

GB

Channel Set Up



The “Channel Set Up” menu allows you to preset channels on this TV.

Auto Tuning

The “Auto Tuning” option in the “Channel Set Up” menu allows you to automatically search and store all available TV channels.

To do this:
After selecting the option, press ➡, and then proceed in the same way as in step 4 of the section “Switching On the TV and Automatically Tuning” (see page 7).

Programme Sorting

The “Programme Sorting” option in the “Channel Set Up” menu allows you to change the order in which the channels (TV broadcast) appear on the screen.

To do this:
After selecting the option, press ➡, and then proceed in the same way as in step 5b) of the section “Switching On the TV and Automatically Tuning” (see page 8).

Programme Labels

The “Programme Labels” option in the “Channel Set Up” menu allows you to name a channel using up to five characters (letters or numbers).

To do this:

1. After selecting the option, press ➡. Press ⬆ or ⬇ to select the programme number with the channel you wish to name, then press **OK**.
2. Press ➡. With the first element of the label column highlighted, press ⬆ or ⬇ to select a letter or number (select “-” for a blank), then press ➡ to confirm this character. Select the other four characters in the same way. finally press **OK** to store.

Manual Programme Preset

The “Manual Programme Preset” option in the “Channel Set Up” menu allows you to:

a) Preset channels or a video input source one by one to the programme of your choice.

To do this:

1. After selecting the “Manual Programme Preset” option, press ➡. Press ⬆ or ⬇ to select the **Programme** option and press ➡. Press ⬆ or ⬇ to select a programme number on which you want to preset the channel (for VCR, select programme number “0”), then press ⬅.

The following option is only available depending on the country you have selected in the “Language/Country” menu.

2. After selecting the **System** option, press ➡. Press ⬆ or ⬇ to select the appropriate broadcast system (**B/G** or **D/K**) until the correct sound is heard, then press **OK**.
3. After selecting the **Channel** option, press ➡. Press ⬆ or ⬇ to select the channel tuning (**C** for terrestrial channels or **S** for cable channels). Next press ➡. After that, press the number buttons to directly enter the channel number of the TV Broadcast. If you do not know the channel number, press ⬆ or ⬇ to search for it. When you tune the desired channel, press **OK** twice to store.

   Repeat all the above steps to tune and store more channels.

continued...

b) Normally the automatic fine tuning (AFT) will give the best possible picture, however you can manually fine tune the TV to obtain a better picture if the picture is distorted.

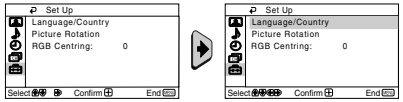
To do this:
While watching the channel (TV Broadcast) you wish to fine tune, select the **AFT** option and press ➡. Next press ⬆ or ⬇ to adjust the fine tuning between -15 and +15. Finally press **OK** twice to store.

c) Skip any unwanted programme numbers when they are selected with the PROG +/- button.

To do this:
Highlighting the **Programme** option, press **PROG +/-** to select the programme number you want to skip. When the programme you want to skip appears on the screen, select the **Skip** option and press ➡. Next press ⬆ or ⬇ to select **Yes**. Finally press **OK** twice to confirm and store.

To cancel this function afterwards, select **No** instead of **Yes** in the step above.

Set Up



The “Set Up” menu allows you to alter various options on this TV.

Language/ Country

The “Language/Country” option in the “Set Up” menu allows you to select the language that the menus are displayed in.

To do this:
After selecting the option, press ➡, and then proceed in the same way as in steps 2 and 3 of the section “Switching On the TV and Automatically Tuning” (see page 7).

Picture Rotation

Because of the earth’s magnetism, the picture might slant. In this case, you can correct the picture slant by using the option “Picture Rotation” in the “Set Up” menu.

To do this:
After selecting the option, press ➡. Press ⬅ or ➡ (⬆ or ⬇) to correct any slant of the picture. Finally press **OK** to store.

RGB Centring

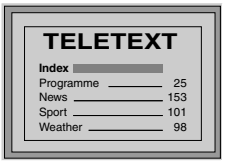
When connecting an RGB source, such as a “PlayStation 2”, you may need to readjust the horizontal position of the picture. In that case, you can readjust it through the “RGB Centring” option in the “Set Up” menu.

To do this:
While watching an RGB source, select the “RGB Centring” option and press ➡. Press ⬆ or ⬇ to adjust the picture between -10 and +10. Finally press **OK** to confirm and store.

Teletext

Teletext is an information service transmitted by most TV stations. The index page of the teletext service (usually page 100) gives you information on how to use the service. To operate teletext, use the remote control buttons as indicated below.

Be sure to use a channel (TV Broadcast) with a strong signal, otherwise Teletext errors may occur.



To switch on Teletext:
After selecting the TV channel which carries the teletext service you wish to view, press ☰.

To select a Teletext page:
Input the 3 digits of the page number, using the numbered buttons.
- If you have made a mistake, retype the correct page number.
- If the counter on the screen continues searching, it is because the page is not available. In that case, input another page number.

To access the next or preceding page:
Press ▲ or ▼.

To superimpose teletext onto the TV:
Whilst you are viewing teletext, press ☰. Press again to cancel Teletext mode.

To freeze a teletext page:
Some Teletext pages have sub-pages which follow on automatically. To stop them, press ⏸. Press again to cancel the freeze.

To reveal concealed information (e.g., answer to a quiz):
Press ?. Press again to conceal the information.

To enlarge the Teletext display:
Press ÷. Each time you press ÷, the Teletext display changes as follows: Enlarge upper half→Enlarge lower half→Normal size.

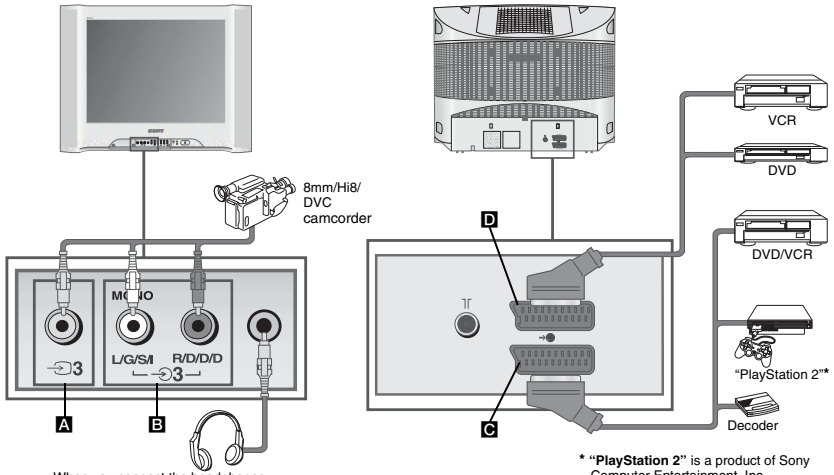
To Switch Off Teletext:
Press ▢.

Fastext

The Fastext service lets you access pages with one push of a button.
While you are in Teletext mode and Fastext is broadcast, a colour coded menu appears at the bottom of the teletext page. Press the coloured buttons (red, green, yellow or blue) to access the corresponding page.

Connecting Optional Equipment

Using the following instructions you can connect a wide range of optional equipment to your TV set (connecting cables are not supplied).



When you connect the headphones, the TV speakers will automatically be muted.

* **"PlayStation 2"** is a product of Sony Computer Entertainment, Inc.
* **"PlayStation 2**" is a trademark of Sony Computer Entertainment, Inc.

Connecting a VCR:
To connect a VCR, please refer to the section "Connecting an aerial and VCR" of this instruction manual. We recommend you connect your VCR using a Scart lead. If you do not have a Scart lead, tune in the VCR test signal to the TV programme number "0" by using the "Manual Programme Preset" option. (for details of how to manually programme these presets, see page 13, step a).
Refer to your VCR instruction manual to find out the output channel of your VCR.
To connect a "PlayStation 2", please refer to the instruction manual of "PlayStation 2".

GB

Using optional Equipment

1 Connect your equipment to the designated TV socket, as indicated in the previous page.

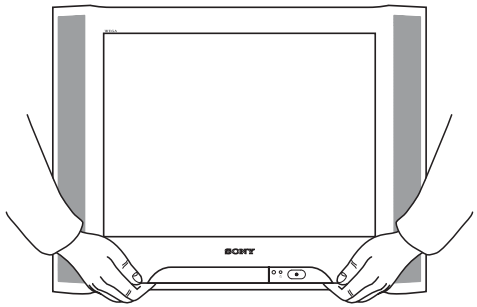
2 Switch on the connected equipment.

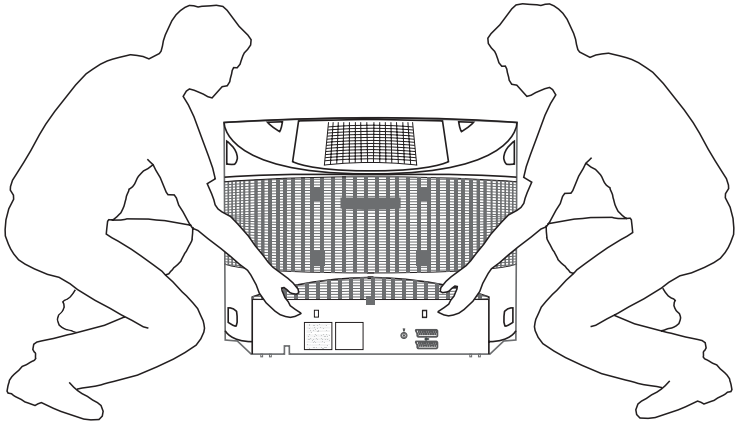
3 To watch the picture from the connected equipment, press ⊖ repeatedly until the correct input symbol appears on the screen.

Symbol	Input Signals
⊖1	• Audio/video input signal through the Scart connector **C**.
⊖1	• RGB input signal through the Scart connector **C**. This symbol appears only if a RGB source has been connected.
⊖2	• Audio/video input signal through the Scart connector **D**.
⊖S2	• S Video Input signal through the Scart connector **D**.
⊖3	• Video input signal through the phono socket **A** and Audio input signal through **B**.

4 Press ▭ button on the remote control to return to the normal TV picture.

Lifting the TV Set





Specifications

TV system:
Depending on your country selection:
B/G/H, D/K

Colour system:
PAL, SECAM
NTSC 3.58, 4.43 (only Video In)

Channel Coverage:

VHF:	E2-E12
UHF:	E21-E69
CATV:	S1-S20
HYPER:	S21-S41
D/K	R1-R12, R21-R69

Picture Tube:
Flat Display FD Trinitron

Rear Terminals:
1/ 21-pin scart connector (CENELEC standard) including audio/video input, RGB input, TV audio/video output.

2/ 21-pin Scart connector (CENELEC standard) including audio / video input, S video input, monitor audio / video output.

Front Terminals:
3 video input – phono jack
3 audio input – phono jacks
headphones jack

Sound Output:
2 x 12 W (music power)
2 x 6 W (RMS)

Power Consumption:
130 W

Standby Power Consumption:
< 1 W

Dimensions (w x h x d):
Approx. 776 x 595 x 521 mm.

Weight:
Approx. 45 Kg.

Accessories supplied:
1 Remote Control (RM-EA005)
2 Batteries (IEC designated, AA/R6 size)

Other features:
- Teletext, Fastext, TOPtext
- Sleep Timer
- On Timer
- TV system Autodetection

Design and specifications are subject to change without notice

Ecological Paper - Totally Chlorine Free

Disposal of Old Electrical & Electronic Equipment (Applicable in the European Union and other European countries with separate collection systems)

This symbol on the product or on its packaging indicates that this product shall not be treated as household waste. Instead it shall be handed over to the applicable collection point for the recycling of electrical and electronic equipment. By ensuring this product is disposed of correctly, you will help prevent potential negative consequences for the environment and human health, which could otherwise be caused by inappropriate waste handling of this product. The recycling of materials will help to conserve natural resources. For more detailed information about recycling of this product, please contact your local Civic Office, your household waste disposal service or the shop where you purchased the product.

Troubleshooting

Here are some simple solutions to problems which may affect the picture and sound.

Problem	Solution
No picture (screen is dark), and no sound.	• Check the aerial connection. • Plug the TV in and press the ⏻ button on the front of the TV. • If the standby indicator ⏻ is on press the I/⏻ button on the remote control. • Press the ⏻ button on the front of the TV to switch off the TV for about 5 seconds, then switch it on again.
Poor or no picture (screen is dark), but good sound.	• Using the menu system, select the “Picture Adjustment” menu and select “Reset” to return to the factory settings (see page 9).
No picture or menu information from equipment connected to the Scart socket.	• Check that the optional equipment is on, and press repeatedly on the remote control until the correct input symbol is displayed on screen (see page 15).
Good picture, no sound.	• Press the + button on the remote control. • Check the Headphones are not connected.
Good picture, distorted sound.	• Using the menu system, enter the “Manual Programme Preset” option in the “Channel Set Up” menu and select the appropriate TV system in the “System” menu until the correct sound is heard (see page 12).
No colour on colour programmes.	• Using the menu system, select the “Picture Adjustment” menu and select “Reset” to return to the factory settings (see page 9).
Distorted picture when changing programmes or selecting Teletext.	• Turn off any equipment connected to the Scart connectors on the rear of the TV.
Wrong characters appear when viewing teletext.	• Using the menu system, enter the “Language/ Country” option in the “Set Up” menu and select the country in which you are operating the TV set. For Cyrillic languages, we recommend to select Russia in the case that your own country does not appear in the list (see page 13).
Picture slanted.	• Using the menu system, select the “Picture Rotation” option in the “Set Up” menu to correct the picture slant (see page 13).
Noisy picture when viewing a TV channel.	• Using the menu system, select the “Manual Programme Preset” menu and adjust Fine Tuning (AFT) to obtain better picture reception (see page 13). • Using the menu system, select the “Intelligent Picture” option in the “Picture” menu and select “On” to reduce the noise in the picture (see page 9).
Remote control does not function.	• Replace the batteries.
The standby indicator ⏻ on the TV flashes red.	• Contact your nearest Sony service centre.

In case of problems, have your TV serviced by qualified personnel. Never open the casing yourself.

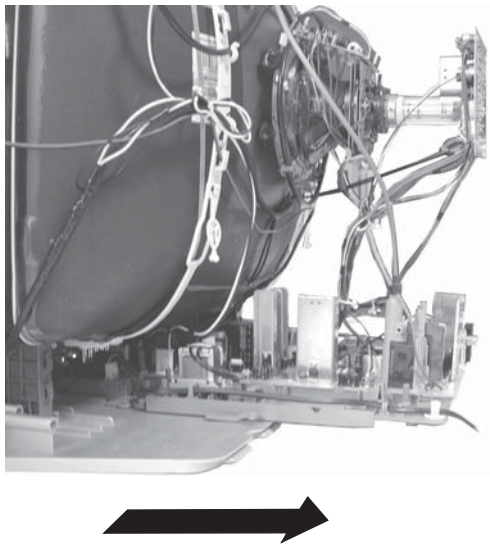
GB

SECTION 2 DISASSEMBLY

2-1. Rear Cover Removal

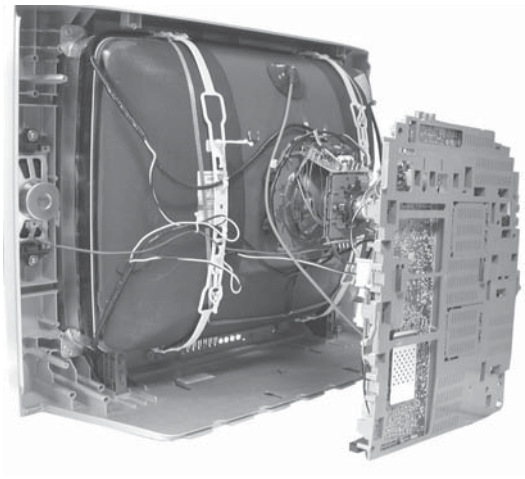
Remove the rear cover fixing screws indicated and pull the rear cover backwards away from the set.

2-2. Chassis Removal and Refitting



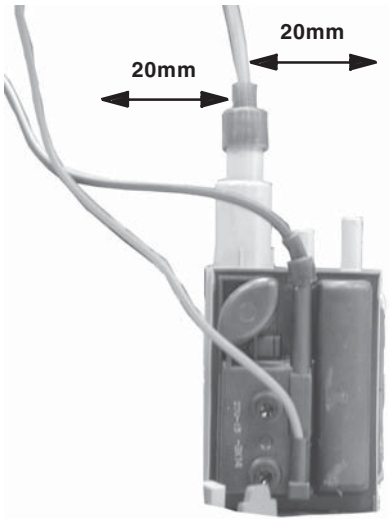
To remove lift the main bracket rear slightly and slide the chassis away from the beznet. Ensure that the interconnecting leads are released from their purse locks to prevent damage being caused.

2-3. Service Position



Position the chassis as indicated to access the solder side of the A PWB.

2-4. Wire Dressing

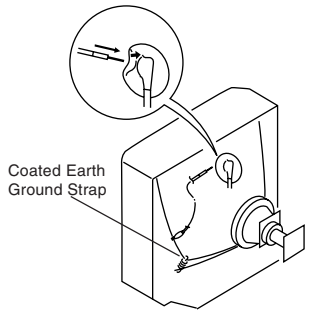


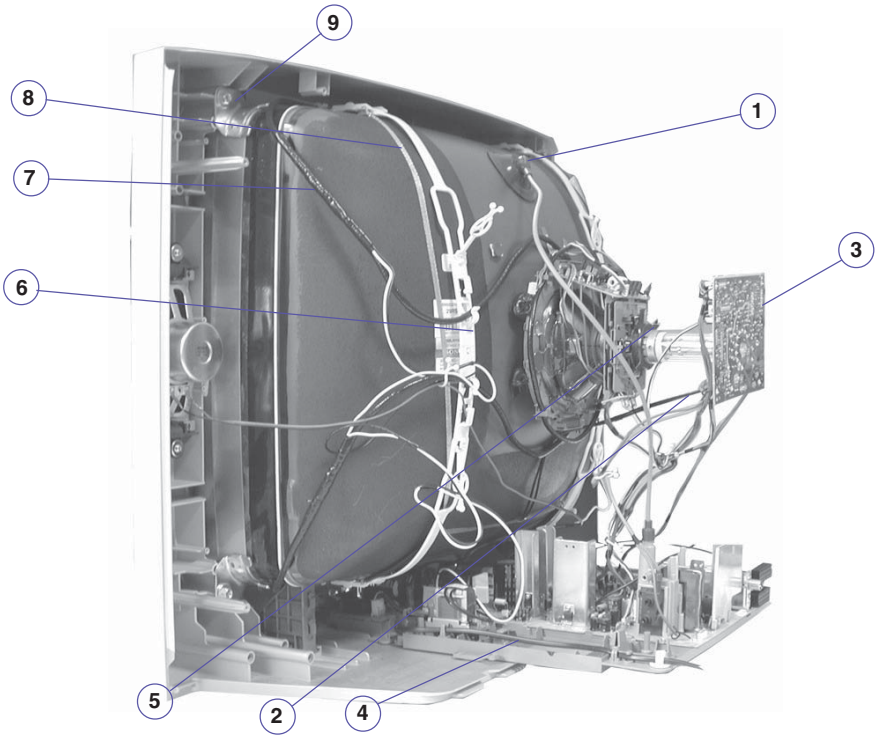
Ensure that wires do not touch heatsinks and high temperature hotspots. All wires must be kept at a minimum distance of 20mm away from the EHT lead

2-5. Picture Tube Removal

WARNING:
BEFORE REMOVING
THE ANODE CAP

High voltage remains in the CRT even after the power is disconnected. To avoid electric shock, discharge CRT ***before*** attempting to remove the anode cap. Short between anode and CRT coated earth ground strap.

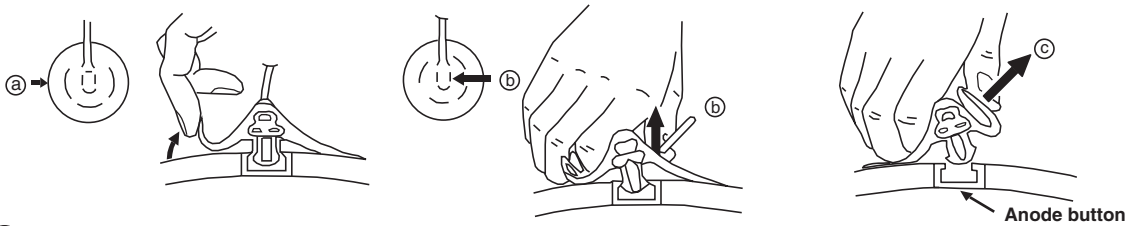




1. Discharge the anode of the CRT and remove the anode cap.
2. Unplug all interconnecting leads from the Deflection yoke, neck assy, degaussing coils and CRT grounding strap.
3. Remove the C Board from the CRT.
4. Remove the chassis assembly.
5. Loosen the Deflection yoke fixing screw and remove.
6. Place the set with the CRT face down on a cushion and remove the Degaussing Coil holders.
7. Remove the Degaussing Coils.
8. Remove the CRT grounding strap and spring tensioners.
9. Unscrew the four CRT fixing screws [located on each CRT corner] and remove the CRT.
   [Take care not to handle the CRT by the neck.]

Removal of the Anode-Cap

REMOVAL PROCEDURE.



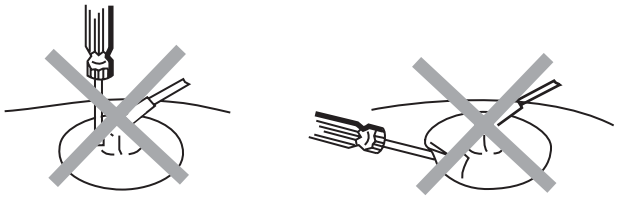
① Turn up one side of the rubber cap in the direction indicated by the arrow ⓐ

② Using a thumb pull up the rubber cap firmly in the direction indicated by the arrow ⓑ

③ When one side of the rubber cap is separated from the anode button, the anode-cap can be removed by turning up the rubber cap and pulling it up in the direction of the arrow ⓒ

How to handle the Anode-Cap

1. To prevent damaging the surface of the anode-cap do not use sharp materials.
2. Do not apply too great a pressure on the rubber, as this may cause damage to the anode connector.
3. A metal fitting called a shatter hook terminal is fitted inside the rubber cap.
4. Do not turn the rubber foot over excessively, this may cause damage if the shatter hook sticks out.



SECTION 3 SET-UP ADJUSTMENTS

- When complete readjustment is necessary or a new picture tube is installed, carry out the following adjustments.
- Unless there are specific instructions to the contrary, carry out these adjustments with the rated power supply.
- Unless there are specific instructions to the contrary, set the controls and switches to the following settings :

Contrast ..... 80% [or remote control normal]

Brightness 50%

Carry out the adjustments in the following order :

3-1. Beam Landing.
3-2. Convergence.
3-3. Focus.
3-4. White Balance.

Note : Test equipment required.
1. Color bar/pattern generator.
2. Degausser.
3. Oscilloscope.
4. Digital multimeter.
5. DC Power Supply

Preparation:

1. In order to reduce the influence of geomagnetism on the set's picture tube, face it in an easterly or westerly direction.
2. Switch on the set's power and degauss with the degausser.

3-1. Beam Landing

1. Input an all white signal from the pattern generator. Set the Contrast and Brightness to normal.
2. Set the pattern generator raster signal to a Red raster.
3. Move the deflection yoke to the front and adjust with the purity control so that the Red is at the centre and the Blue and Green take up equally sized areas on each side of the screen. [See Fig.3-1 - 3-3].
4. Move the deflection yoke backwards and adjust so that the entire screen becomes Red. [See Fig.3-1]
5. Switch the raster signal to Blue, then to Green and verify the condition.
6. When the position of the deflection yoke has been determined, fasten the deflection yoke with the screws.
7. If the beam does not land correctly in all the corners, use a magnet to correct it. [See Fig.3-4]

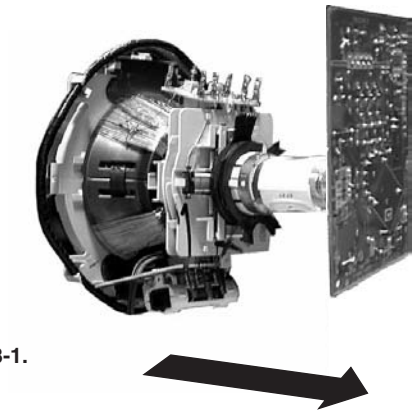


Fig. 3-1.

Caution :

High voltages are present on the Deflection yoke terminals - take care when handling the Deflection yoke whilst carrying out adjustments.

Fig. 3-2.

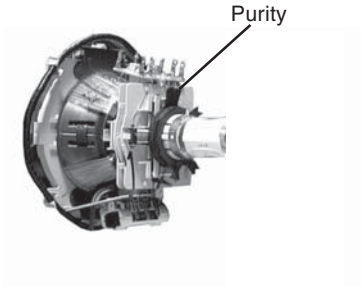
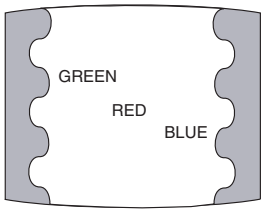


Fig. 3-3.



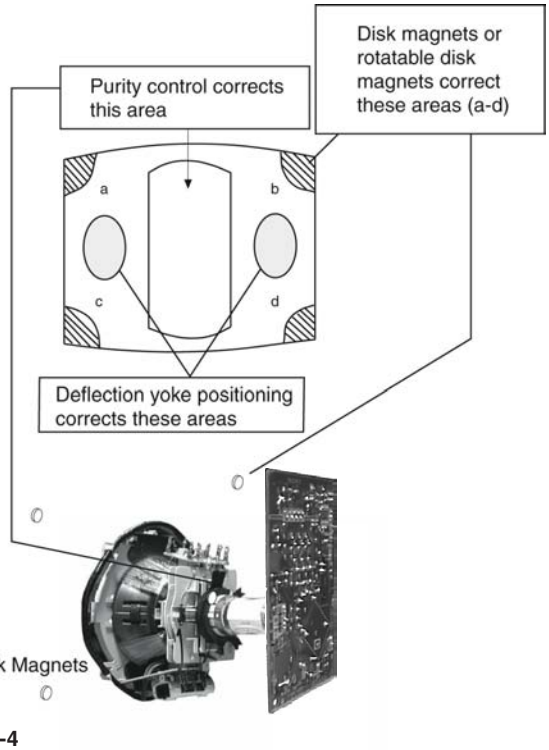


Fig.3-4

3-2. Convergence

Preparation:

- Before starting this adjustment, adjust the focus, horizontal size and vertical size.
- Minimize the Brightness setting.
- Input a dot pattern from the pattern generator.

Horizontal and Vertical Static Convergence

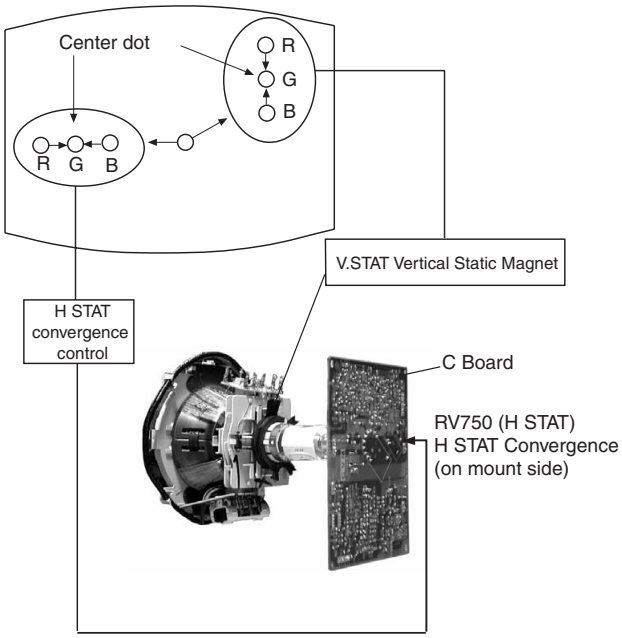
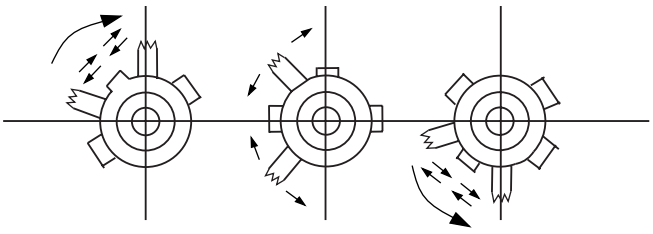


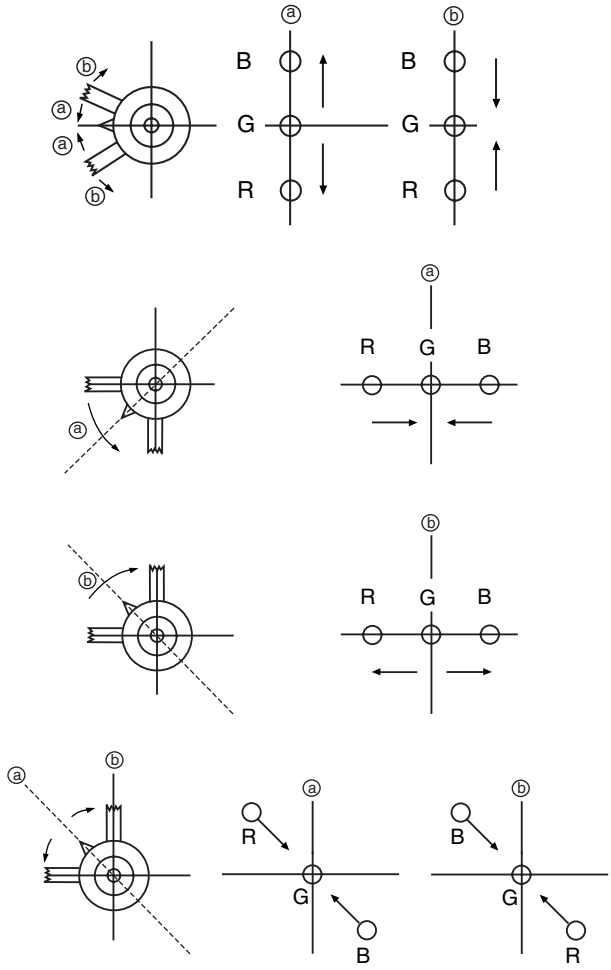
Fig.3-5

1. [Moving horizontally], adjust the H.STAT control so that the Red, Green and Blue points are on top of each other at the centre of the screen.
2. [Moving vertically], adjust the V.STAT magnet so that the Red, Green and Blue points are on top of each other at the centre of the screen.
3. If the H.STAT variable resistor is unable to bring the Red, Green and Blue points together at the centre of the screen, adjust the horizontal convergence with the H.STAT variable resistor and the V.STAT magnet in the manner indicated below.
   [In this case, the H.STAT variable resistor and the V.STAT magnet influence each other].

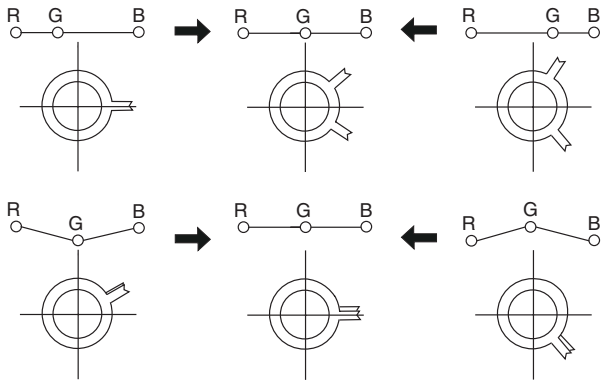
   - Tilt the V.STAT magnet and adjust the static convergence by opening or closing the V.STAT magnet.



4. If the V.STAT magnet is moved in the direction of the (a) and (b) arrows, the Red, Green and Blue points move as indicated below.



Operation of the BMC (Hexapole) magnet.



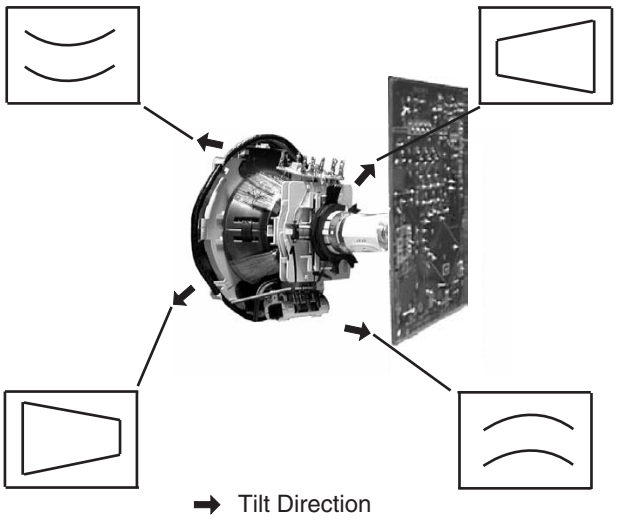
The movement of the magnets interact with each other and so the respective dot position should be monitored while carrying out this adjustment.
Use the H.STAT VR to adjust the Red, Green and Blue dots so that they coincide at the centre of the screen
(by moving the dots in the horizontal direction).

Geometry Adjustment.

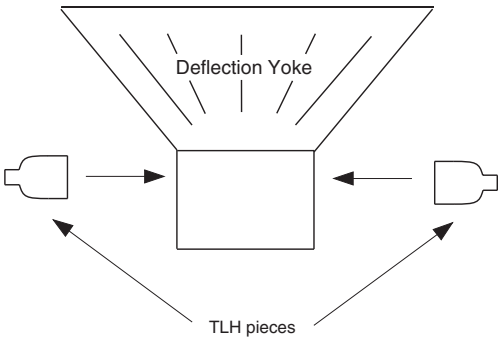
Preparation:

Before starting this adjustment, adjust the horizontal and vertical static convergence.

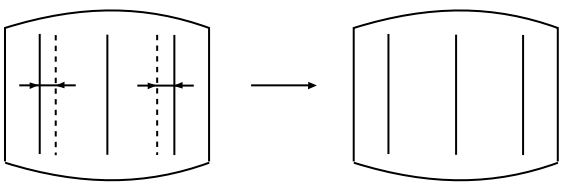
1. Remove the deflection yoke spacer.
2. Tilt the deflection yoke as indicated in the figure below and optimise the geometry.
   Tilting the DY Up and Down will balance the upper and lower pin adjustment.
   Tilting the DY Left and Right will balance the H-Trap adjustment.
3. Re-install the deflection yoke spacer.



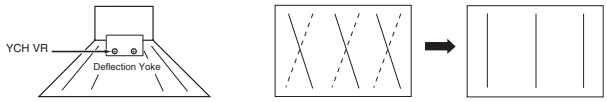
HTIL Adjustment



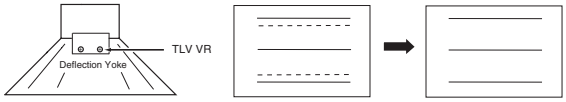
HTIL correction can be performed by adding a TLH correction assembly to the Deflection yoke.



YCH Adjustment

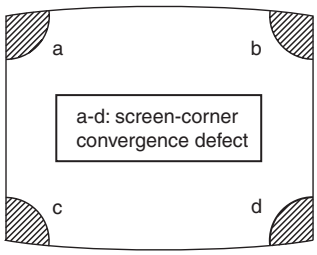


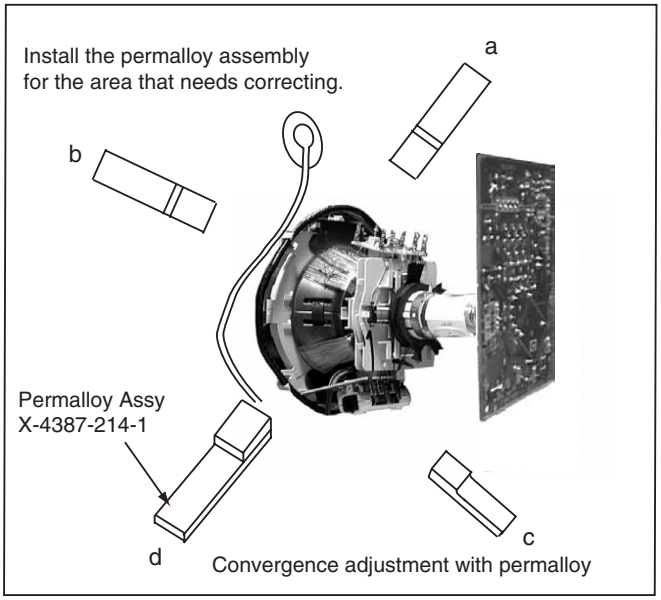
TLV Adjustment



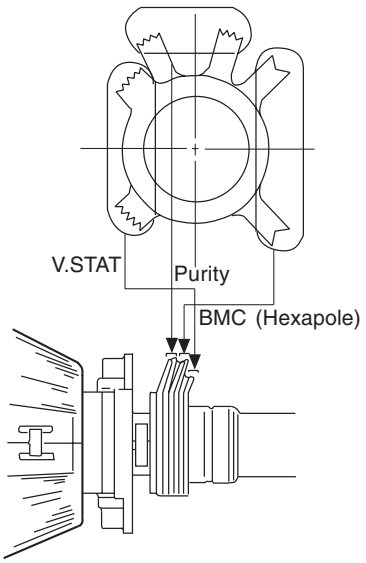
Screen Corner Convergence

If you are unable to adjust the corner convergence properly, this can be corrected with the use of permalloy magnets.



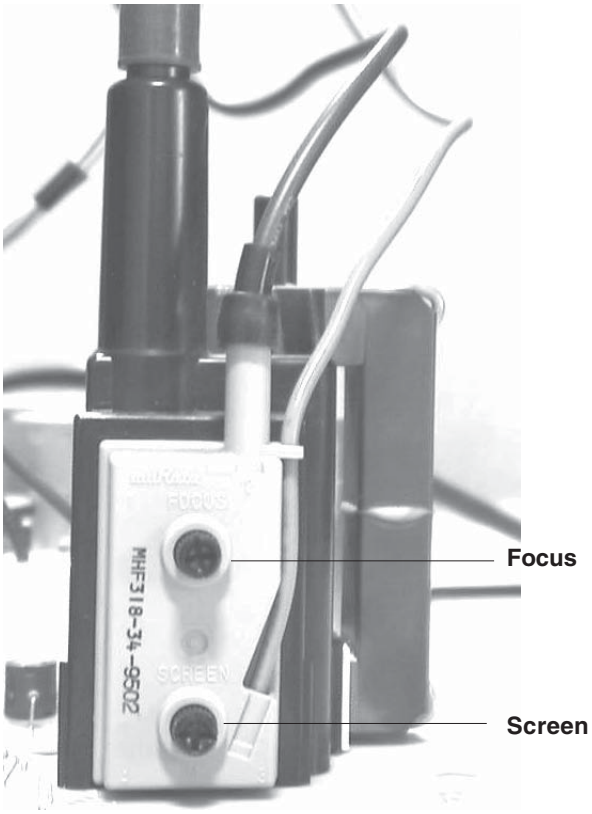


Layout of each control



3-3. Focus Adjustment

1. Receive a television broadcast signal.
2. Normalize the picture setting.
3. Adjust the focus control located on the flyback transformer to obtain the best focus at the centre of the screen.
   Bring only the centre area of the screen into focus, the magenta-ring appears on the screen. In this case, adjust the focus to optimize the screen uniformly.



3-4. Screen (G2), White Balance

[Adjustment in the service mode using the remote commander]

G2 adjustment

1. Input a dot signal from the pattern generator.
2. Set the Picture, Brightness and Colour to minimum.
3. Apply 167V DC from an external power supply to the R, G and B cathodes of the CRT.
4. Whilst watching the picture, adjust the G2 control [SCREEN] located on the Flyback Transformer to the point just before the flyback return lines disappear.

White balance adjustment for TV mode

1. Input an all-white signal from the pattern generator.
2. Enter into the 'Service Mode' using the Remote Commander.
3. Select WHBL 'RDRV' and fix the value to 25 hex.
4. Adjust WHBL 'GDRV' and the 'BDRV' so that the white balance becomes optimum in highlight condition.
5. Adjust WHBL 'BKOR' and the 'BKOG' so that the white balance becomes optimum in cut-off condition.
6. Set the offset settings for LIVE and GAME mode as shown in the table below.

OFFSET TABLE

Live	<---	Personal	<---	Game
Adjusted value +2		BKOR (adjusted)		Adjusted value
Adjusted value -3		BKOG (adjusted)		Adjusted value
25 hex		RDRV (25 hex)		25 hex
Adjusted value +2		GDRV (adjusted)		Adjusted value -2
Adjusted value +4		BDRV (adjusted)		Adjusted value -6

SECTION 4 CIRCUIT ADJUSTMENTS

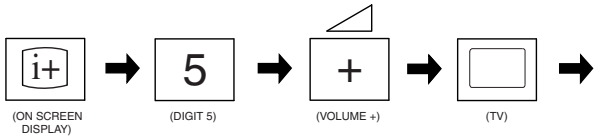
4-1. Electrical Adjustments

Service adjustments to this model can be performed using the supplied remote Commander RM-EA005.

How to enter into the Service Mode

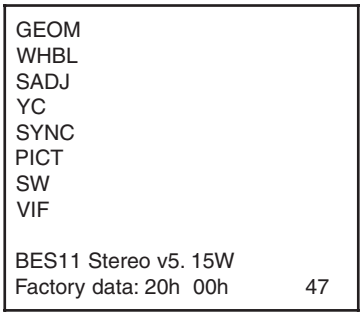
1. Turn on the main power switch and enter into the stand-by mode.

2. Press the following sequence of buttons on the Remote Commander.



'TT—' will appear in the upper right corner of the screen.
Other status information will also be displayed.

3. Press 'MENU' on the remote commander to obtain the following menu on the screen.



4. Move to the corresponding adjustment item using the up or down arrow buttons on the Remote Commander.

5. Press the right arrow button to enter into the required menuitem.

6. Press the 'Menu' button on the Remote Commander to quit the Service Mode when all adjustments have been completed.

Note :

- After carrying out the service adjustments, to prevent the customer accessing the 'Service Menu' switch the TV set OFF and then ON.

TVJ	Functionality		Initial	Range	Function	Table & Note	Device Name	Common	50	60	w50	w60
Category	No	Name	Dec	Dec								
GEOM	000	HPOS	031	063	Horizontal Shift (HS)	50/60/w50/w60(+ JPN RGB)	TV-Processor		31	31	31	31
	001	HPAR	031	063	Horizontal Parallelogram	50/60/w50/w60			31	31	31	31
	002	HBOW	031	063	Horizontal Bow	50/60/w50/w60			31	31	31	31
	003	VLIN	031	063	Vertical Linearity	50/60/w50/w60			31	31	31	31
	004	VSCR	031	063	Vertical Scroll	50/60/w50/w60			31	31	31	31
	005	HSIZ	031	063	EW Width (EW)	50/60/w50/w60(+ JPN RGB)			31	31	31	31
	006	EWPW	031	063	EW Parabola/Width (PW)	50/60/w50/w60			31	31	31	31
	007	UCOP	017	063	EW Upper Corner Parabola	50/60/w50/w60			17	17	17	17
	008	LCOP	017	063	EW Lower Corner Parabola	50/60/w50/w60			17	17	17	17
	009	EWTZ	031	063	EW Trapezium	50/60/w50/w60			31	31	31	31
	010	VSLP	031	063	Vertical Slope (VS)	50/60/w50/w60			31	31	31	31
	011	VSIZ	015	063	Vertical Amplitude	50/60/w50/w60			15	15	15	15
	012	SCOR	014	063	S-Correction (SC)	50/60/w50/w60			14	14	14	14
	013	VPOS	031	063	Vertical Shift (VSH)	50/60/w50/w60			31	31	31	31
	014	HBL	000	001	RGB Blanking Mode	50/60/w50/w60			01	01	01	01
	015	WBF	007	015	Timing of Wide Blanking (WBF)	50/60/w50/w60			09	09	09	09
	016	WBR	007	015	Timing of Wide Blanking (WBR)	50/60/w50/w60			10	10	10	10
	017	SBL	000	001	Service Blanking	none		00				
	018	COPY	000	001	Copy the GEO data to all 50/60Hz NVM area	none		00				

- shaded items are adjustable data.
- no data.

TVJ	Functionality		Initial	Range	Function	Table & Note	Device Name	Common	Live (COOL other)	GAME (WARM other)	MOVIE/ PERSONAL (NEUTRAL other)	LIVE (COOL RGB)	GAME (WARM RGB)	MOVIE/ PERSONAL (NEUTRAL RGB)	Other	RGB	YUV	Pic mode 0 (LIVE)	Pic mode 1 (MOVIE)	Pic mode 2 (GAME)	Pic mode 3 (PERSONAL)
Category	No	Name	Dec	Dec																	
WHBL	000	BKOR	031	063	Black Level Offset R	col temp (HIGH/LOW/Normal)*(UV/RGB/Others)	TV-Processor		31	31	31	31	31	31							
	001	BKOG	031	063	Black Level Offset G	col temp (HIGH/LOW/Normal)*(UV/RGB/Others)			31	31	31	31	31	31							
	002	RDRV	037	063	White Point R	col temp (HIGH/LOW/Normal)*(UV/RGB/Others)			37	37	37	37	37	37							
	003	GDRV	037	063	White Point G	col temp (HIGH/LOW/Normal)*(UV/RGB/Others)			37	37	37	37	37	37							
	004	BDRV	037	063	White Point B	col temp (HIGH/LOW/Normal)*(UV/RGB/Others)			37	37	37	37	37	37							
	005	LPG	000	001	RGB Gain Preset	none		00													
	006	PGR	031	127	Preset Gain R (PGR)	none		45													
	007	PGG	031	127	Preset Gain G (PGG)	none		45													
	008	PGB	031	127	Preset Gain B (PGB)	none		45													
	009	GNOF	000	015	Preset Gain Offset	none	CCC loop	08													
	010	SBRT	031	063	Sub-Brightness	Others/RGB/YUV									38	34	00				
	011	SBRO	000	003	Sub-Brightness Offset (Intelligent Pic)	none		00													
	012	EGL	000	001	Enable Gain Loop CCC System	none		00													
	013	SGL	000	003	Selection of High Current in CCC System	none		00													
	014	AKB	000	001	Black Current Stabilization	none		00													
	015	CBS	000	001	Control Sequence of Beam Current Limiting	none		00													
	016	RGBB	000	003	RGB Blanking	none		00													
	017	BLBG	000	001	Blanking of Blue &Green Output	none		00													
	018	OFB	000	001	Black Level Offset Blue	none		00													
	019	NSBR	000	015	Non-Standard Brightness Offset	none		00													
	020	WBP	000	003	Color Temp setting (0:High, 1:Normal, 2,3:Low)	Picture Mode												00	01	02	01
	021	OUV	000	003	Offset Control on UV Input signals (only for US and Japan)	Others/YUV									00		00				

TVJ	Functionality		Initial	Range	Function	Table & Note	Device Name	Common	50pal (TV)	50pal (Video)	50secam (TV)	50secam (video)	60TV	60Video	50RGB	60RGB	Pic mode 0 (LIVE)	Pic mode 1 (MOVIE)	Pic mode 2 (GAME)	Pic mode 3 (PERSONAL)	TV-IP ON	Video	RGB	TV Wide	Video Wide
Category	No	Name	Dec	Dec																					
SADJ	000	PMAX	063	063	Picture Maximum	(TV/Video)*(Normal/Wide)/<Normal/Wide> (+ JPN RGB)	TV-Processor														34	34		26	26
	001	SHUE	007	015	Sub-Hue	TV/Video															07	08			
	002	SSHP	015	063	Sub-Sharpness	TV/Video/YUV (+ JPN RGB)															24	38	15		
	003	SSHO	000	003	Sub-Sharpness Offset (Intelligent Pic)	none		03																	
	004	SCOL	031	063	Sub-Color	50pal(tv)/50pal(video)/50secam(tv)/50secam(video)/ 60TV/60video/50YUV/60YUV/50RGB/60RGB			25	28	25	28	23	26	28	26									
	005	SCOO	000	003	Sub-Color Offset (Intelligent Pic)	none		02																	
	006	PIC	031	127	Picture Control [GA:0~100(valid); >100(invalid), Others:0~63(valid); ignore bit 6(invalid)]	Picture Mode (GA: Personal = User Reset Data)											63	35	38	55					
	007	COL	031	127	Color Control [GA:0~100(valid); >100(invalid), Others:0~63(valid); ignore bit 6(invalid)]	Picture Mode (GA: Personal = User Reset Data)											38	31	31	31					
	008	BRT	031	127	Brightness Control [GA:0~100(valid); >100(invalid), Others:0~63(valid); ignore bit 6(invalid)]	Picture Mode (GA: Personal = User Reset Data)											31	35	31	31					
	009	HUE	031	127	Hue Control [GA:0~100(valid); >100(invalid), Others:0~63(valid); ignore bit 6(invalid)]	Picture Mode (GA: Personal = User Reset Data)											31	31	31	31					
	010	SHP	031	127	Sharpness Control [GA:0~100(valid); >100(invalid), Others:0~63(valid); ignore bit 6(invalid)]	Picture Mode (GA: Personal = User Reset Data)											42	28	31	31					

- shaded items are adjustable data.
- no data.

TVJ	Functionality		Initial	Range	Function	Table & Note	Device Name	Common	Others	PAL(TV)	NTSC(TV)	SECAM (TV)	PAL (Video)	NTSC (Video)	SECAM (Video)	S-INPUT	SECAM	NTSC	TV
Category	No	Name	Dec	Dec															
YC	000	PFRQ	000	003	Peaking Center Frequency and Delay		TV-Processor	00											
	001	RPA	001	003	Ratio Pre & Over Shoot	TV/other			02										01
	002	RPO	002	003	Ratio of Positive & Negative Peaks	TV/other			01										01
	003	YDLY	012	015	Y-Delay	(PAL/NTSC/SECAM)*(TV/VIDEO)+YUV/S-INPUT				06	06	06	05	05	05	10			
	004	CMAT	000	003	PAL-SECAM or NTSC (Japan/USA) Matrix	(JPN RGB)		00											
	005	ACL	001	001	Automatic Color Limiting			01											
	006	CB	000	001	Chroma Bandpass Center Frequency	valid only with TV (*Video : 0 fix)		00											
	007	SBO	001	003	SECAM Black Offset			01											
	008	CHSE	001	003	PAL/NTSC Ident Sensitivity			02											
	009	CLO	000	001	Center Frequency of Cloche (Bell) Filter			00											
	010	CTRP	000	001	Chroma Trap Mode	SECAM/others			00								01		
	011	BPS	000	001	Bypass of Chroma Base-band Delay Line	NTSC/others			00									00	
	012	FCO	000	001	Forced Color On			00											
	013	TINT	031	063	Base-Band Tint Control	YUV/Others			31										
	014	TUV	000	001	Tint Control on UV Signals			00											

TVJ	Functionality		Initial	Range	Function	Table & Note	Device Name	Common	50	60	Others	TV-IP ON	Video	Teletext	TV-IP OFF	No Signal
Category	No	Name	Dec	Dec												
SYNC	000	SYS	000	001	Synchronization on YSYNC Input		TV-Processor	00								
	001	FO	000	003	Phase 1 Time Constant	TV IP ON/TV IP OFF/Video/Teletext/Auto Tuning or No signal(RF)						00	03	01	03	00
	002	VID	000	001	Video Ident Mode	50/60			00	00						
	003	FSL	000	001	Forced Slicing Level for Vertical Sync			00								
	004	SSL	000	001	Slicing Level Sync Separator	50/60			00	00						
	005	SVID	001	007	Source Selection for Video Identification	YUV/Others					00					
	006	FORF	000	003	Forced Field Frequency			03								
	007	MVK	000	001	Macro Vision Keying			01								
	008	AFCT	000	003	AFC Timing Switch Control (GA, US:Pin 116, Euro, JPN: Pin 128)			03								

- shaded items are adjustable data.
- no data.

TVJ	Functionality		Initial	Range	Function	Table & Note	Device Name	Common	Others	RGB	Picture: Live	TV (Live)	TV (Others)	Video (Live)	Video (Others)	Color Temp (COOL)	Color Temp (Others)	Color Temp (Warm)	Color Temp (Neutral)
Category	No	Name	Dec	Dec															
PICT	000	CADL	007	015	Cathode Drive Level		TV-Processor	02											
	001	CFA	000	003	Comb Filter Mode			01											
	002	SOC	002	003	Soft Clipping Level			00											
	003	PWL	001	001	Peak White Limiting Switch			01											
	004	WHTL	006	015	Peak White Limiting			05											
	005	GAM	001	001	Gamma			01											
	006	WTS	001	003	Gamma Control and White Stretch	Live/Others			00		01								
	007	TFR	000	001	DC Transfer Ratio of Luminance Signal	Live/Others (+ JPN RGB)			00		01								
	008	COR	003	003	Coring	(TV/Video)*(Dyna/others)						02	02	00	01				
	009	CORO	000	001	Coring Offset (Intelligent Pic)			01											
	010	BKS	003	003	Black Stretch	RGB/others			02	02									
	011	AAS	001	001	Black Area to Switch off the Black Stretch			01											
	012	DSK	000	001	Dynamic Skin Control			00											
	013	BLS	000	001	Blue Stretch	col temp (HIGH/OTHERS)										01	00		
	014	NBLS	000	001	Operation Blue Stretch Circuit			00											
	015	NRR	000	001	Non Red Reduction	col temp (HIGH/LOW/NORMAL)										01		00	00
	016	CFA2	000	001	Forced Comb Filter on (Only for US & JPN)	none		00											

TVJ	Functionality		Initial	Range	Function	Table & Note	Device Name	Common	TV	Video
Category	No	Name	Dec	Dec						
SW	000	CV2	000	001	CVBS2 Input Signal Selection		TV-Processor	00		
	001	SVO	001	003	Function of IFVO/SVO/CVBSI Pin @ 48	TV/Video/YUV			01	01
	002	DFL	000	001	Flash Protection			00		

- shaded items are adjustable data.
- no data.

TVJ	Functionality		Initial	Range	Function	Table & Note	Device Name	Common
Category	No	Name	Dec	Dec				
VIF	000	OIFD	036	063	Offset IF Demodulator		TV-Processor	36
	001	AGCT	031	063	AGC Take-over			36
	002	STM	000	001	Search Tuning Mode			01
	003	GD	000	001	Group Delay on CVBS1 Signal			00
	004	AGCS	001	003	IF AGC Speed			00
	005	FFI	000	001	Fast Filter IF PLL			00
	006	OAMP	003	003	Video Output Signal Amplitude (only L & L'System)			03
	007	VAI	000	001	System I Output Signal Amplitude Correction (only L & L'System)			01

TVJ	Functionality		Initial	Range	Function	Table & Note	Device Name	Common
Category	No	Name	Dec	Dec				
SDEM	000	FMWS	000	003	Window Selection for FM Demodulator		TV-Processor	02
	001	QSS	001	001	Quasi Split Sound (QSS)Amplifer Mode (except GA Model)			01
	002	BPB	000	001	Bypass of Sound Bandpass Filter			00
	003	AMLO	000	001	Audio Output Signal for AM Sound			00
	004	HPVC	000	001	Head Phone Volume Control			00

TVJ	Functionality		Initial	Range	Function	Table & Note	Device Name	Common
Category	No	Name	Dec	Dec				
TXT	000	TXV	039	063	Teletext Vertical Position for Philips		Text Decoder	37
	001	THD	005	127	Teletext H-sync Active Edge Shift			05
	002	TBR	004	015	Teletext RGB Brightness			10

- shaded items are adjustable data.
- no data.

TVJ	Functionality		Init.	Range	Function	Table & Note	Device Name (Slave Address)	NVM Address / Initial Value (Detailed)								
Category	No.	Name	Dec	Dec				Common	Off	SRS/WOW	Trusurround	Istereo	Imono	TV-L(Euro)	TV	Video
SDSP	000	AVM	002	007	AVL Mode		SSD	02								
	001	AVV	005	015	AVL Reference Level		(80h)	09								
	002	BBL	000	015	BBE Contour			00								
	003	BBH	000	015	BBE Process			00								
	004	BBLW	000	015	BBE Contour Offset			06								
	005	SVOF	000	015	Surround /Effect Mode Volume Offset	Off(SRS/WOW)/Trusurround/Istereo/Imono			00	07	00	02	00			
	006	IVOF	000	007	Master Volume Positive Offset											
	007	EVOF	000	007	Master Volume Negative Offset			06								
	008	LAD	000	031	Decoder Level Adjust			06								
	009	LAM	000	031	Mono Level Adjust			05								
	010	LAN	000	031	Nicam Level Adjust			05								
	011	LAS	000	031	SAP Level Adjust			17								
	012	LAA	000	031	ADC Level Adjust	Tv/Video(Non Euro)I TV-L/TV-non L/Video		08						00	00	00
	013	SEF	003	007	Incredible Mono/Stereo Effect	Istereo/Imono						05	03			
	014	A1L	000	255	AUX1 Volume Left			00								
	015	A1R	000	255	AUX1 Volume Right			00								
	016	BAS	008	015	Main Bass Offset			14								
	017	TRE	008	015	Main Treble Offset			11								
	018	EQ1	008	015	Equalizer Main Channel Band (100 Hz) Offset			10								
	019	EQ2	008	015	Equalizer Main Channel Band (300 Hz) Offset			01								
	020	EQ3	008	015	Equalizer Main Channel Band (1000 Hz) Offset			00								
	021	EQ4	008	015	Equalizer Main Channel Band (3000 Hz) Offset			10								
	022	EQ5	008	015	Equalizer Main Channel Band (8000 Hz) Offset			00								
	023	BFCT	005	007	DBE, DUB and BBE Control			00								
	024	SCEN	001	015	SRS3D Center Control			04								
	025	SSPA	000	015	SRS3D Space Control			01								
	026	BBHW	000	015	BBE process offset in WOW mode			00								
	027	STRE	002	007	Treble Offset for surround mode			01								
	028	BBHT	000	015	BBE Offset in TV mode			00								
	029	DWA	000	000	DWA???			00								
	030	TTRE	002	007	Treble Offset in TV Mode			03								

TVJ	Functionality		Init.	Range	Function	Table & Note	Device Name (Slave Address)	Common
Category	No.	Name	Dec	Dec				
SDEC	000	MPTU	003	015	Upper Threshold for MPX pilot detection (BTSC)		SSD	02
	001	MPTL	009	015	Lower Threshold for MPX pilot detection (BTSC)			05
	002	SPTU	003	015	Upper Threshold for SAP carrier detection			08
	003	SPTL	006	015	Lower Threshold for SAP carrier detection			15
	004	C1TH	000	031	Normal Threshold for detection of SC1			00
	005	C1AP	000	031	Auto Program Threshold for detection of SC1			00
	006	SPTH	000	031	Noise Threshold for automute of SAP			00
	007	SPHY	004	015	Hysteresis size for automute of SAP			03
	008	FMTH	000	031	Noise Threshold for automute of SC2 in FM A2 standard			18
	009	FMHY	004	015	Hysteresis size for automute of SC2 in FM A2 standard			07
	010	BTTH	000	031	Noise Threshold for automute of BTSC stereo carrier			00
	011	BTHY	004	015	Hysteresis size for automute of BTSC stereo			03
	012	EJTH	000	031	Noise Threshold for automute of EIAJ FM subcarrier			00
	013	EJHY	004	015	Hysteresis size for automute of EIAJ FM subcarrier			04
	014	ONLY	000	001	Reproduce only related NICAM on DEC output			00
	015	EXAM	000	001	Fall back source in case of automute in standard L (DDEP)			00
	016	NIMT	000	001	NICAM auto mute function depend on bit error rate (DDEP)			00
	017	NILE	100	255	NICAM lower error limit (DDEP)			50
	018	NIUE	200	255	NICAM upper error limit (DDEP)			200
	019	EPMD	001	003	DEMDEC Easy Programming (DDEP)			01
	020	STDS	019	031	Bits multiplexed for ASD and SSS modes			19
	021	OVMA	001	001	FM overmodulation adaption			00
	022	FLBW	000	003	FM/AM demodulator filter bandwidth			03
	023	IDMD	000	003	FM ident speed in SSS mode			00
	024	FPAL	000	001	Line fequency for BTSC decoding			00
	025	OVMT	001	002	Overmodulation level threshold relative to nominal			03
	026	DCXI	000	001	NICAM DCXO Scaling Control Inverter			00
	027	DCXG	000	007	NICAM DCXO Scaling Control Gain			00
	028	DCLL	011	015	NICAM DCXO Scaling Control Limit (L)			00
	029	DCLH	000	031	NICAM DCXO Scaling Control Limit (H)			00
	030	IDEU	001	003	IDMOD setting for European A2 STD			00
	031	IDKR	001	003	IDMOD setting for Korean M STD			00
	032	IDJP	001	003	IDMOD setting for EIAJ STD			00

TVJ	Functionality		Initial	Range	Function	Table & Note	Device Name	Common	50	60
Category	No	Name	Dec	Dec						
OPTM	000	ASHT	006	007	auto shut off timer (data*5 min)			06		
	001	OSDB	000	015	OSD Brightness		MMR/Micro 60h	03		
	002	OSDH	005	015	OSD Horizontal Position		MMR/Micro 60h	06		
	003	OSDV	037	063	OSD Vertical Position	50/60	MMR/Micro 60h		61	33
	004	MUTE	000	001	No Signal Mute Switch (1 = enabled)			01		
	005	RFUL	015	015	RF Signal Change Counter after Unlocked (Disable when 0fh)			04		
	006	RFLK	015	015	RF Signal Change Counter after Locked (Disable when 0fh)			00		
	007	AVUL	015	015	AV Signal Change Counter after Unlocked (Disable when 0Fh)			15		
	008	AVLK	015	015	AV Signal Change Counter after Locked (Disable when 0Fh)			15		
	009	LANG	000	003	OSD language shipping condition			00		
	010	HTXT	000	001	sync separator sw		TV-Processor	00		
	011	CMSS	000	001	Sync sw		TV-Processor	01		
	012	DCXO	127	255	DCXO offset from Flash Value		SFR/Micro 60h	70		
	013	EXBL	000	015	Extended Blanking Timer to Eliminate White Noise			07		
	014	TSYS	000	003	Memorize TV System in NVM at Test Reset (GA Model)			00		
	015	TVOU	001	001	TV Out Mute Condition 0:Always Mute off, 1:Mute without signal (EURO model)			01		

TVJ	Functionality		Initial	Range	Function	Table & Note	Device Name	Common
Category	No	Name	Dec	Dec				
OPTB	000	IALL	000	001	Standard Write Switch (not memorized in NVM)			00
	001	OPB1	000	255	Option 1 (System related)			*
	002	OPB2	000	255	Option 2 (Video Signal related)			*
	003	OPB3	000	255	Option 3 (Stereo Decoding related)			*
	004	OPB4	000	255	Option 4 (Miscellaneous)			*
	005	OPB5	000	255	Option 5 (Miscellaneous)			*
	006	OPB6	000	255	Option 6 (OSD Language related)			*
	007	BSWT	000	015	Band Switch Wait Time (not memorized in NVM)			00

- shaded items are adjustable data.
- no data.
- * Please refer page 22 and 23.

Sub Brightness Adjustment

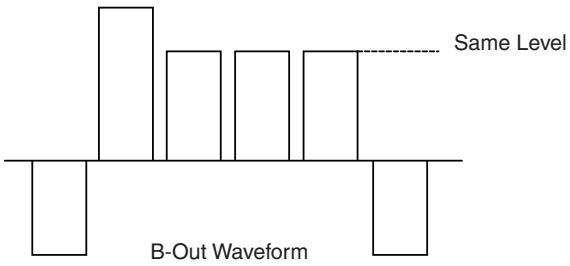
1. Input a Monoscope pattern.
2. Set the TV set for operation in Service Mode.
3. Select WHBL 'SBRT' from the on screen menu display.
4. Adjust the 'SBRT' data using the left or right arrows so that there is barely a difference between the 0 IRE and 10 IRE signal levels.

Sub Contrast Adjustment

1. Input a video signal that contains a small 100% white area on a black background.
2. Connect an digital voltmeter to Pin 10 of J751 [C Board].
3. Adjust the Sub-Contrast (TT11) to obtain a voltage of 86 +/- 5V.

Sub Colour Adjustment

1. Receive a PAL colour bar signal.
2. Connect an oscilloscope to Pin 2 of CN004 [A Board].
3. Set the TV set or operation in Service Mode.
4. Select 'PICT' and 'WTS' from the on screen menu display and adjust to 00 using the left or right arrows.
5. Adjust SADJ 'SCOL' data so that the Cyan, Magenta and Blue colour bars are of equal levels as indicated below.



Tuner AGC Adjustment

Note: There should be no need to adjust the agc as this is pre-adjusted during manufacturing. If the AGC does need adjustment the follow steps 1 to 4 below.

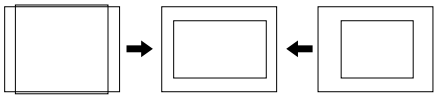
1. Receive signal of 61dBuV/75ohm terminated via the antenna socket.
2. Connect a voltmeter to the AGC pin 5 of CN904 [mount side of A Board].
3. Confirm the AGC voltage is 3.2V +/- 0.5V.
4. If adjustment is required, then re-adjust the AGCT in the service menu to obtain a voltage of 3.2V +/-0.5V.

Deflection Adjustment

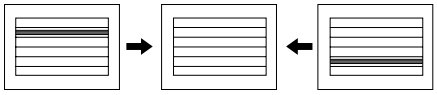
1. Set the TV set to normal (4:3).
2. Connect a voltmeter to the AGC pin 5 of CN904 [mount side of A Board].
3. Confirm the AGC voltage is 3.2V +/- 0.5V.
4. If adjustment is required, then re-adjust the AGCT in the service menu to obtain a voltage of 3.2V +/-0.5V.

HPOS	(0, 63)	Adj
HPAR	(0, 63)	Adj
HBOW	(0, 63)	Adj
VLIN	(0, 63)	Adj
VSCR	(0, 63)	31
HSIZ	(0, 63)	Adj
EWPW	(0, 63)	Adj
UCOP	(0, 63)	Adj
EWTZ	(0, 63)	Adj
VSLP	(0, 63)	31
VSIZ	(0, 63)	Adj
SCOR	(0, 63)	Adj
VPOS	(0, 63)	Adj
HBL	(0, 63)	06
WBF	(0, 15)	9
WBR	(0, 15)	10
SBL	(0, 63)	0
COPY	(0, 63)	0

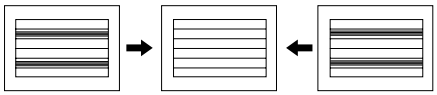
Vertical Amplitude (VSIZ)



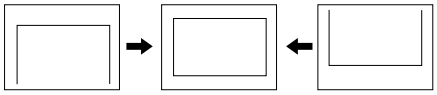
Vertical Linearity (VLIN)



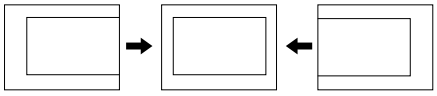
S-Correction (SCOR)



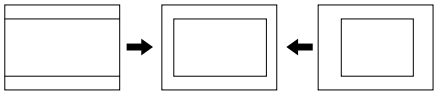
Vertical Shift (VPOS)



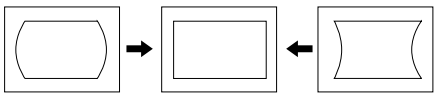
Horizontal Shift (HPOS)



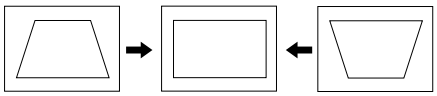
EW Width (HSIZ)



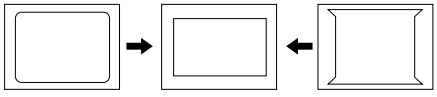
EW Parabola/Width (EWPW)



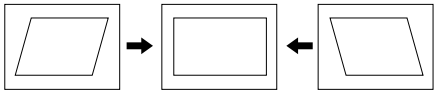
EW Trapezium (EWTZ)



EW Upper Coner Parabola (UCOP)
EW Lower Coner Parabola (LCOP)



Horizontal Parallelogram (HPAR)

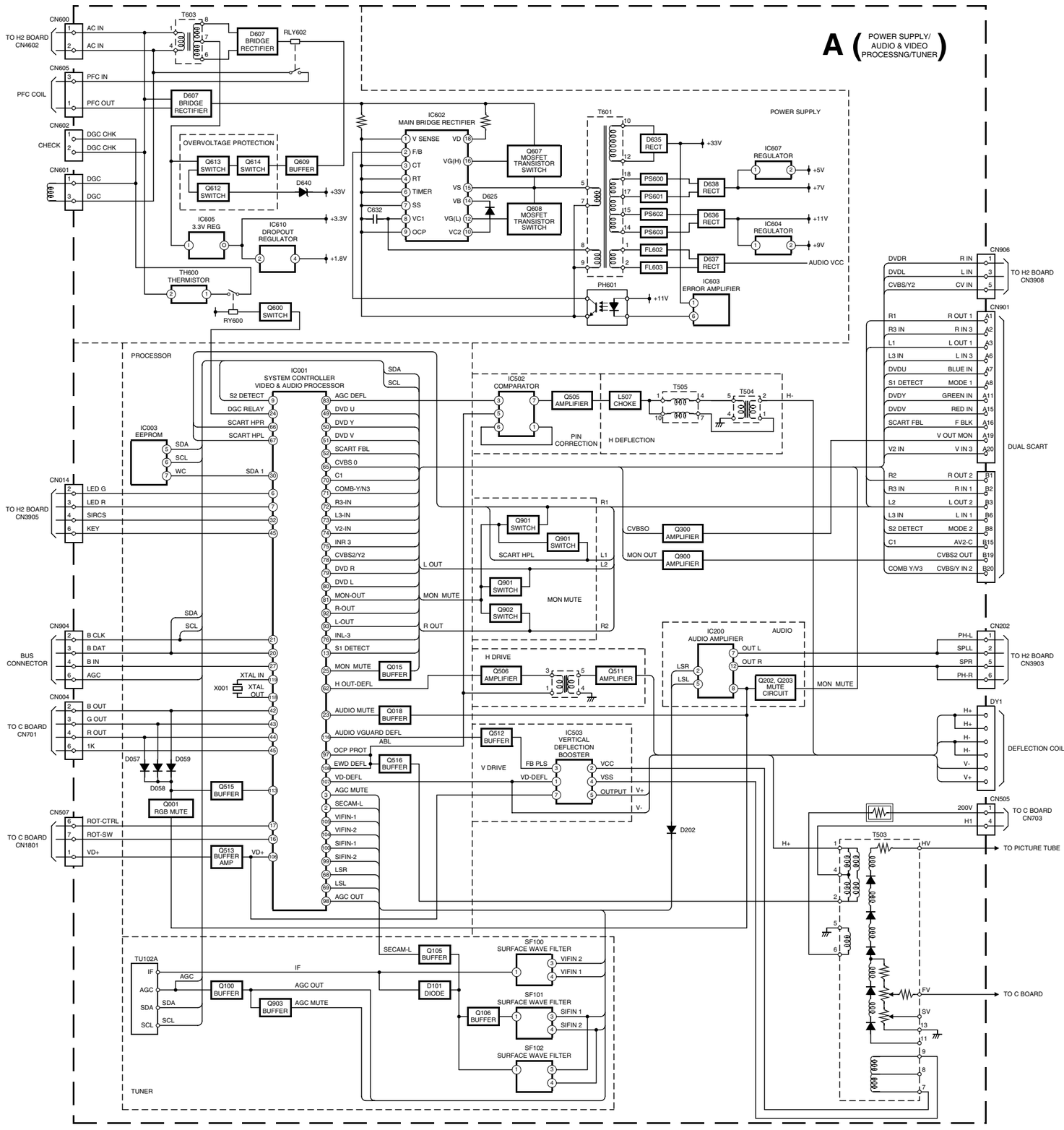


4-2. TEST MODE 2:

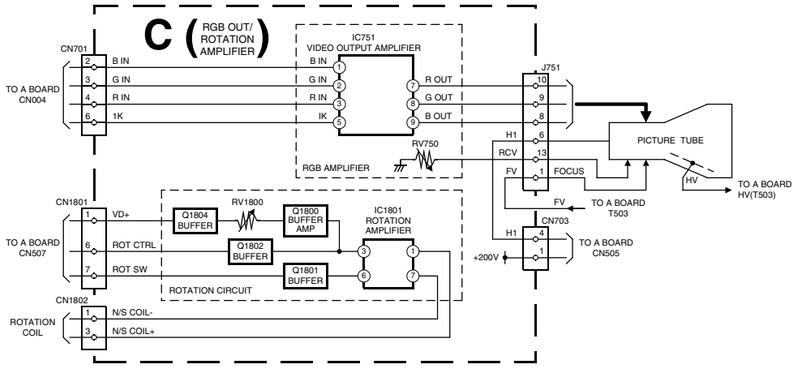
Test Mode 2 is available by setting the TV for operation in Service Mode [As shown on Page 20] , OSD 'TT' appears. The functions described below are available by selecting the two numbers. To release the 'Test mode 2', press 00, 10, 20 ... twice or switch the TV set into Stand-by mode. In 'TT Menu' mode, it is possible to remove the Menu from the screen by pressing the Speaker Off button once. Pressing the Speaker OFF button a second time will cause the Menu to reappear. The function is kept even when the menu is not displayed on screen !!.

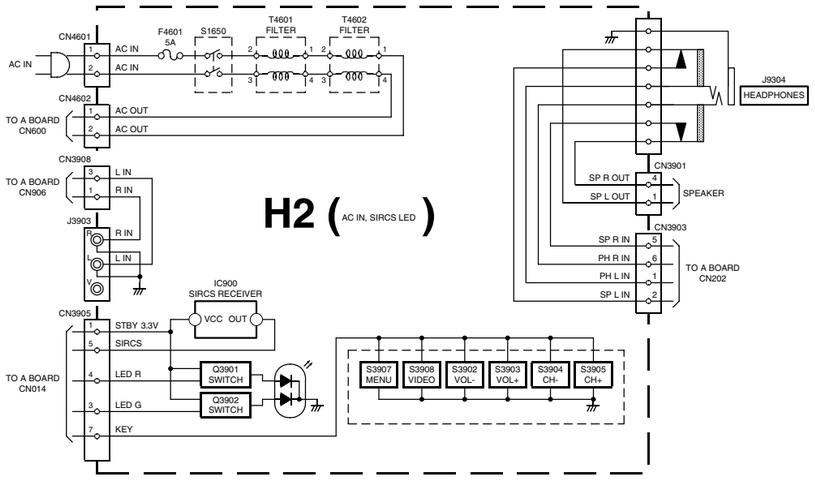
00	'TT' mode off
01	Picture maximum
02	Picture minimum
03	Volume=35% (speaker/headphone)
04	Volume=50% (speaker/headphone)
05	Volume=65% (speaker/headphone)
06	Volume=80% (speaker/headphone)
07	Ageing mode
08	Shipping Condition
11	Sub picture adjustment
12	Sub colour adjustment
13	Sub brightness adjustment
14	Text H Position Adjustment
15	Rotation coil test
19	Factory mode Enable/Disable
21	Destination ADEKR
22	Destination BL
24	Destination U
31	Auto Shutoff Enable/Disable
33	Rotation On/Off
41	Re-initialise NVM
43	Select Dual A Sound (only stereo)
44	Select Dual B Sound (only stereo)
45	Select Mono Sound (only stereo)
46	Select Stereo Sound (only stereo)
48	Set NVM as non virgin
49	Set NVM as virgin
61	Auto AGC Adjustment
64	RGB priority (toggle) On: FS input (Pin 16) is always active Off: FS input is active only in AV1 (Scart)
65	RGB Auto Detection (toggle) Auto: AV1 or RGB is automatically selected at the change of AV input to AV1 (Scart) by user or mode Pin 8 Off: AV input toggle has AV1 and RGB respectively (TV-->AV1-->RGB-->AV2-->...)
67	Manual AGC Adjustment
71	Force PAL video
72	Un-force PAL (cancel the function above)
73	Enable Zweiton D/K2 system (6.5/6.74) (only stereo)
74	Enable Zweiton D/K3 system (6.5/5.74) (only stereo)
78	Balance Full Left (only stereo)
79	Balance Full Rightt (only stereo)
81	Auto NICAM DCXO calibration (only stereo)
87	Local Keys Test
93	Set 16:9 zoom mode
95	Set 4:3 zoom mode
99	Display Error and Working Time Menu

5-1. BLOCK DIAGRAMS (1)

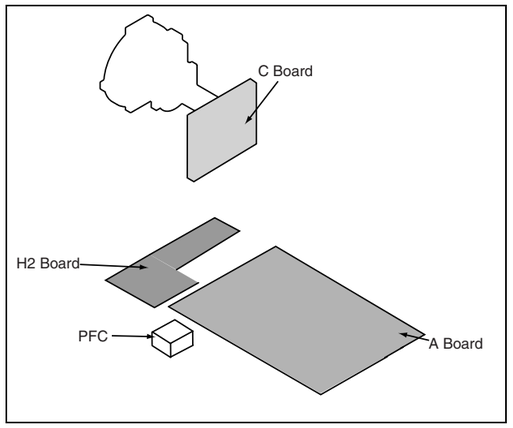


5-1. BLOCK DIAGRAMS (2)





5-2. CIRCUIT BOARD LOCATION



5-3. SCHEMATIC DIAGRAMS AND PRINTED WIRING BOARDS

Note :

- All capacitors are in µF unless otherwise noted.
- pF : µµF 50WV or less are not indicated except for electrolytic types.
- Indication of resistance, which does not have one for rating electrical power, is as follows.

Pitch : 5mm Electrical power rating : 1/4W

- Chip resistors are 1/10W
- All resistors are in ohms.
  k = 1000 ohms, M = 1000,000 ohms
- : nonflammable resistor.
- : fusible resistor.
- : internal component.
- : panel designation or adjustment for repair.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.
- All voltages are in Volts.
- Readings are taken with a 10Mohm digital mutimeter.
- Readings are taken with a color bar input signal.
- Voltage variations may be noted due to normal production tolerences.
- : B + bus.
- : B - bus.
- : RF signal path.
- : earth - ground.
- : earth - chassis.

Reference Information

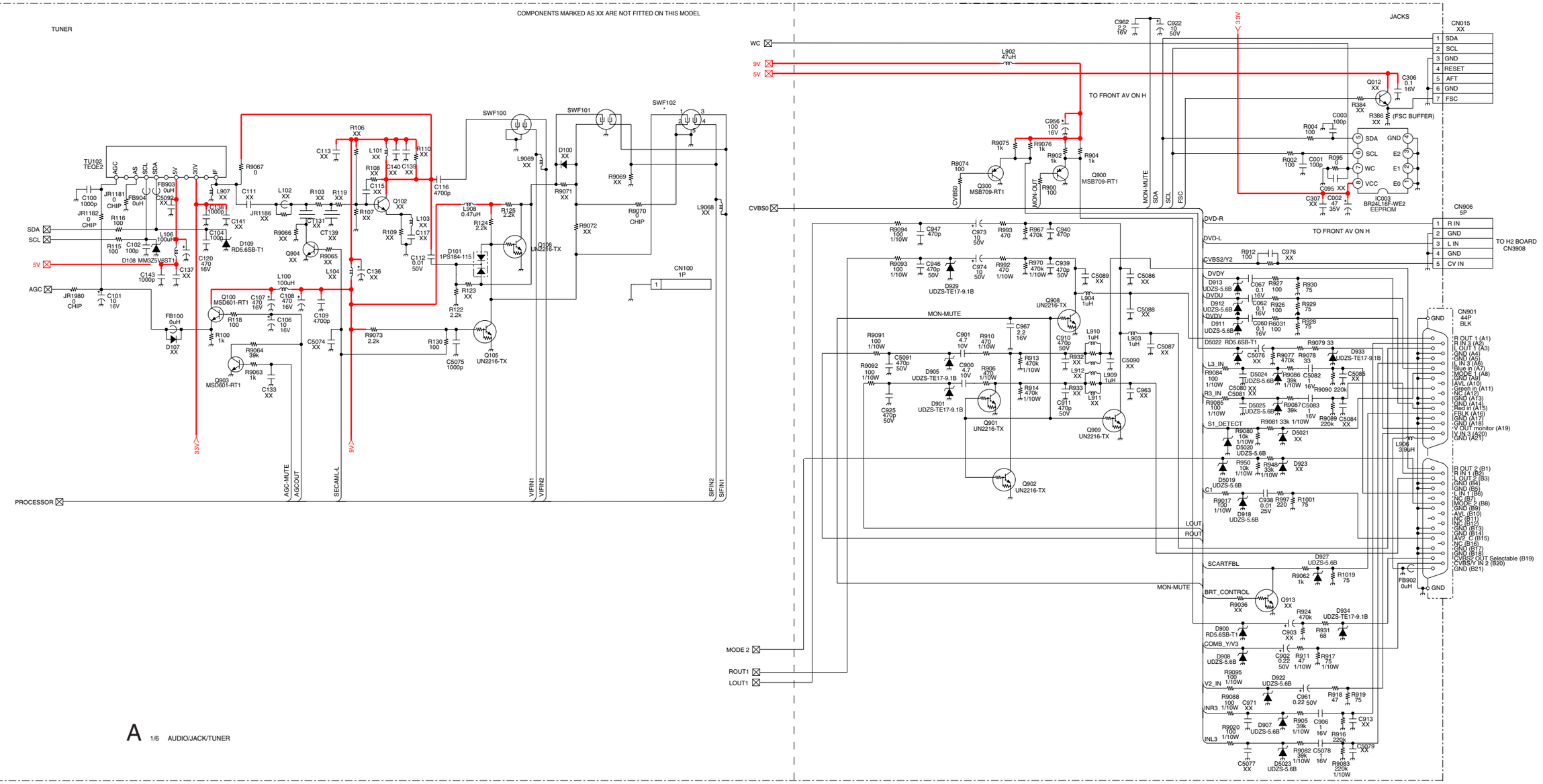
RESISTOR	**RN**	: METAL FILM
	RC	: SOLID
	FPRD	: NON FLAMMABLE CARBON
	FUSE	: NON FLAMMABLE FUSIBLE
	RS	: NON FLAMMABLE METAL OXIDE
	RB	: NON FLAMMABLE CEMENT
	RW	: NON FLAMMABLE WIREWOUND
		: ADJUSTMENT RESISTOR
COIL	**LF-8L**	: MICRO INDUCTOR
CAPACITOR	**TA**	: TANTALUM
	PS	: STYROL
	PP	: POLYPROPYLENE
	PT	: MYLAR
	MPS	: METALIZED POLYESTER
	MPP	: METALIZED POLYPROPYLENE
	ALB	: BIPOLAR
	ALT	: HIGH TEMPERATURE
	ALR	: HIGH RIPPLE

Note : The components identified by shading and marked ⚠ are critical for safety. Replace only with the part numbers specified in the parts list.

Note : Les composants identifiés par une trame et par une marque ⚠ sont d'une importance critique pour la sécurité. Ne les remplacer que par des pièces de numéro spécifié. specified.

A.-29SE10

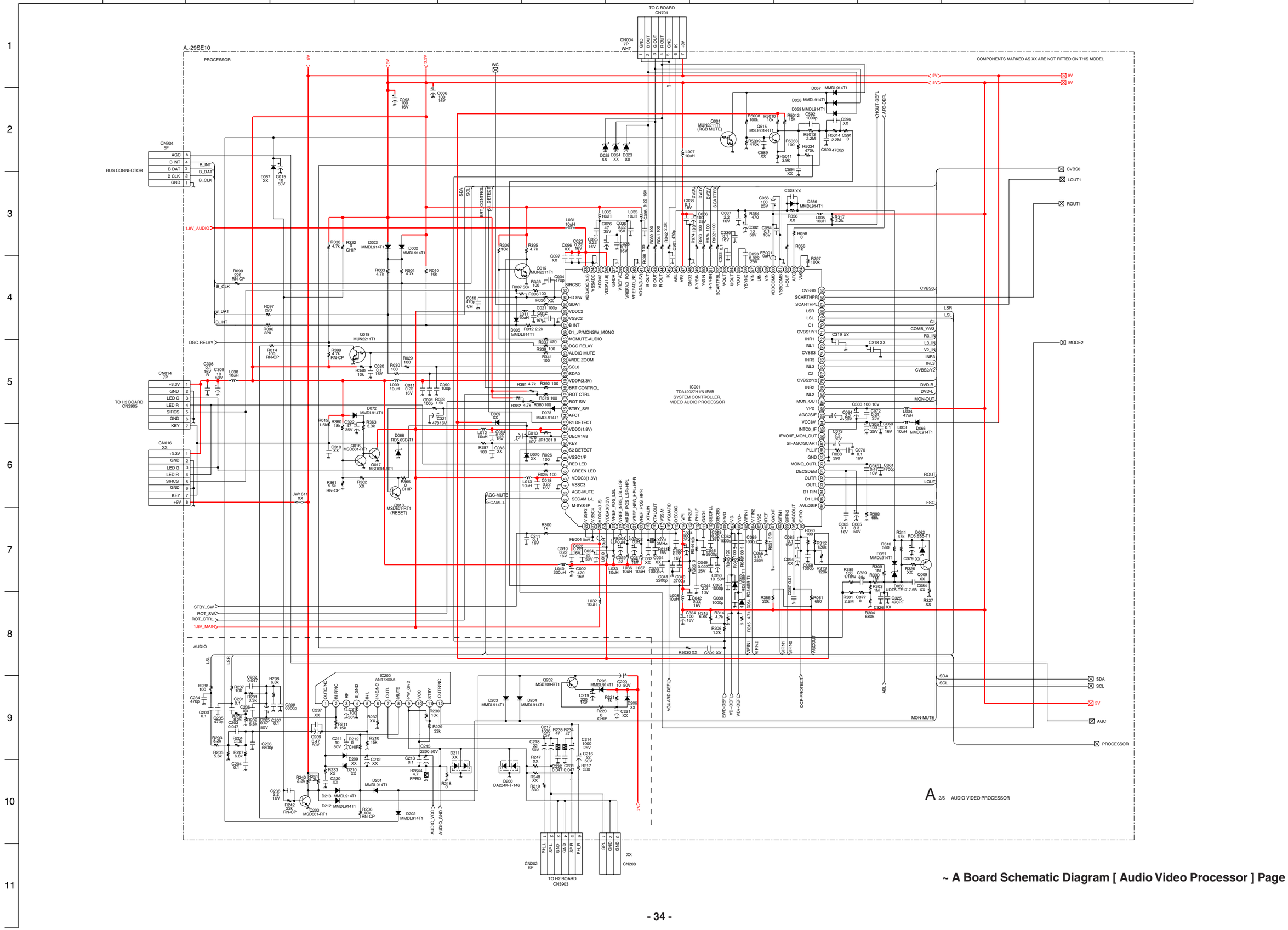
COMPONENTS MARKED AS XX ARE NOT FITTED ON THIS MODEL



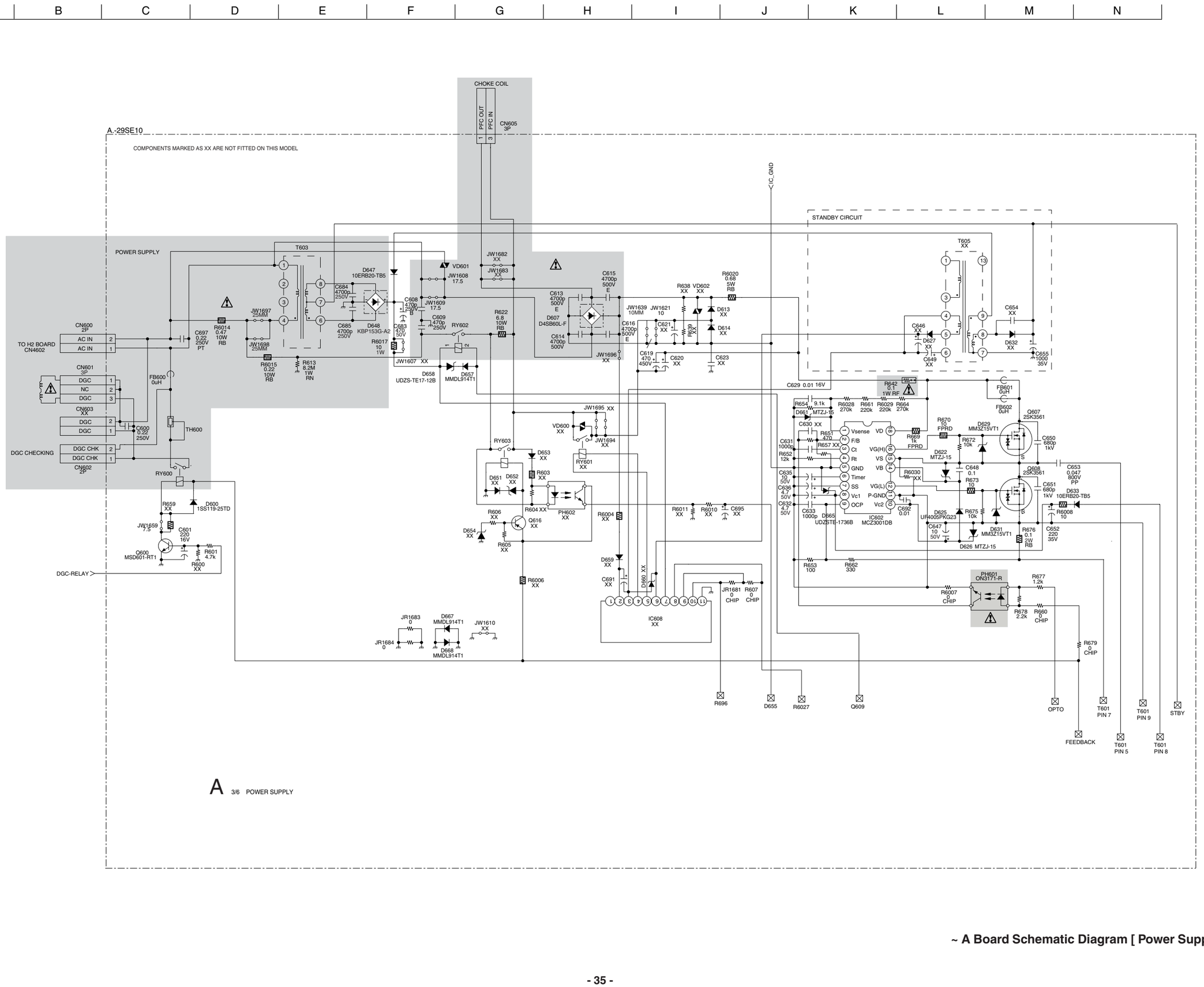
~ A Board Difference Table ~

Ref	KV-29SE10B	KV-29SE10E & K
SWF102	FILTER, SURFACE WAVE	NOT FITTED

~ A Board Schematic Diagram [Audio/Jack/Tuner] Page 1/6 ~



~ A Board Schematic Diagram [Audio Video Processor] Page 2/6 ~



~ A Board Schematic Diagram [Power Supply] Page 3/6 ~

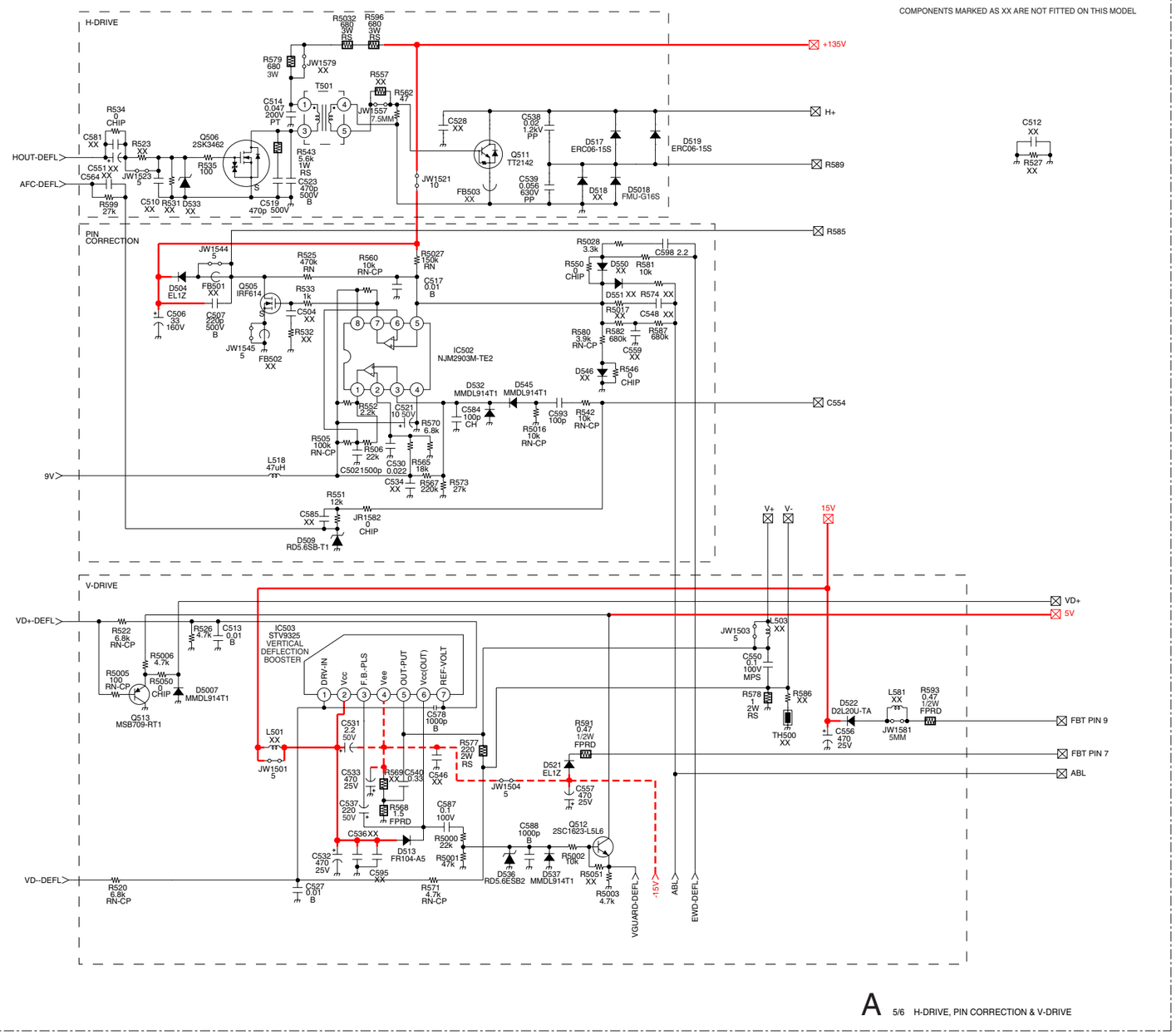
A.-29SE10

COMPONENTS MARKED AS XX ARE NOT FITTED ON THIS MODEL

A 4/6 REGULATORS

A.-29SE10

COMPONENTS MARKED AS XX ARE NOT FITTED ON THIS MODEL



A 5/6 H-DRIVE, PIN CORRECTION & V-DRIVE

~ A Board Schematic Diagram [H-Drive, Pin Correction & V-Drive] Page 5/6 ~

A-29SE10

A 6/6 HORIZONTAL DEFLECTION, FBT & OCP

HORIZONTAL DEFLECTION

OCP CIRCUIT

FBT

T504 T505 T506 XX T507 XX T508 XX T503

L515 L519 XX L507 10mH L512 L511 100uH JW1511 XX JW1583 5 JW1584 5 JW1515 XX

S501 S502

D527 FR104-A5 D528 FR104-A5 D548 1SS133 D547 1SS133 D523 EL1Z D529 1SS133T D530 MTZJ-9.1A

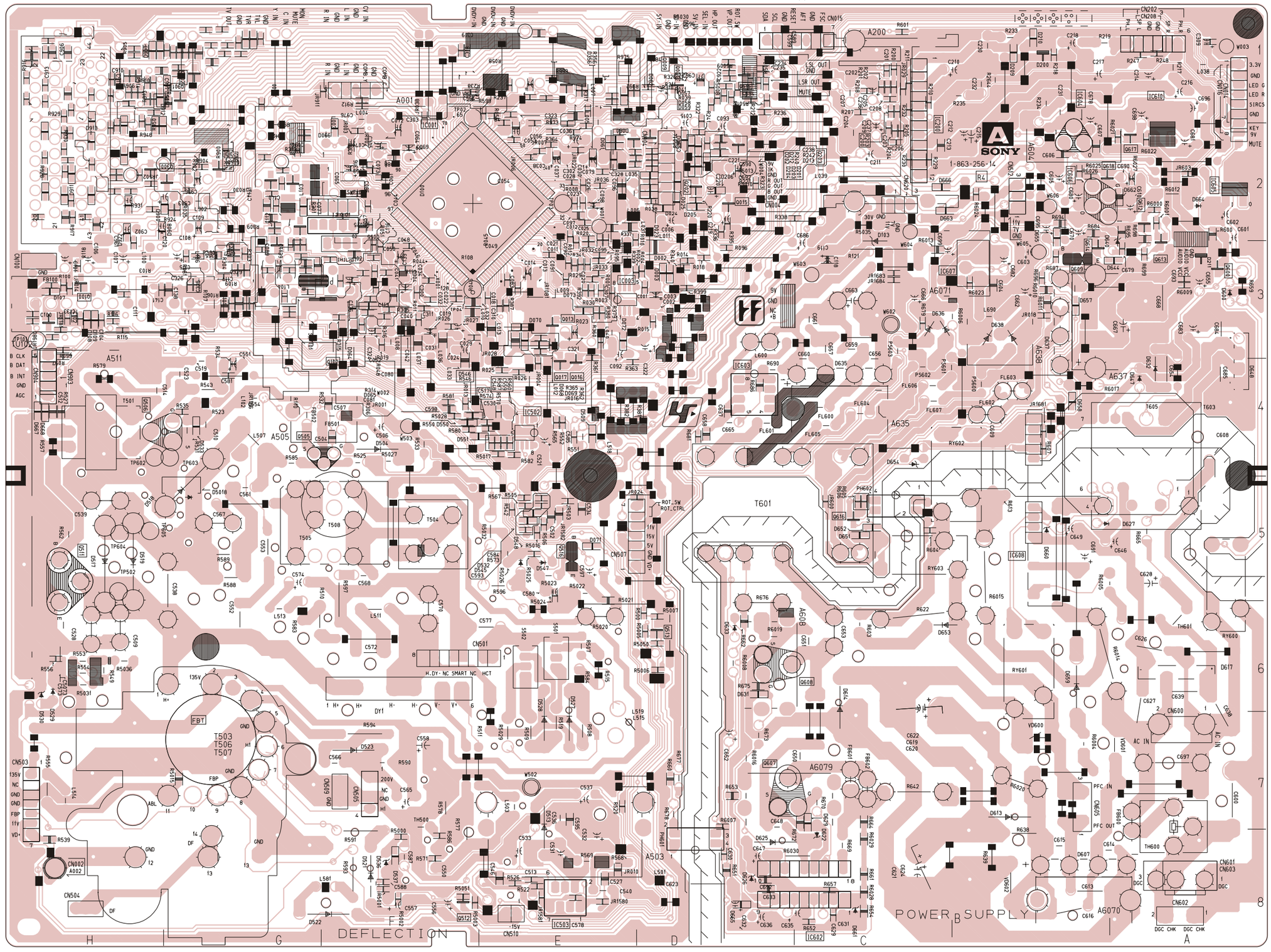
Q516 2SA1091R-TPE2

FOCUS SCREEN

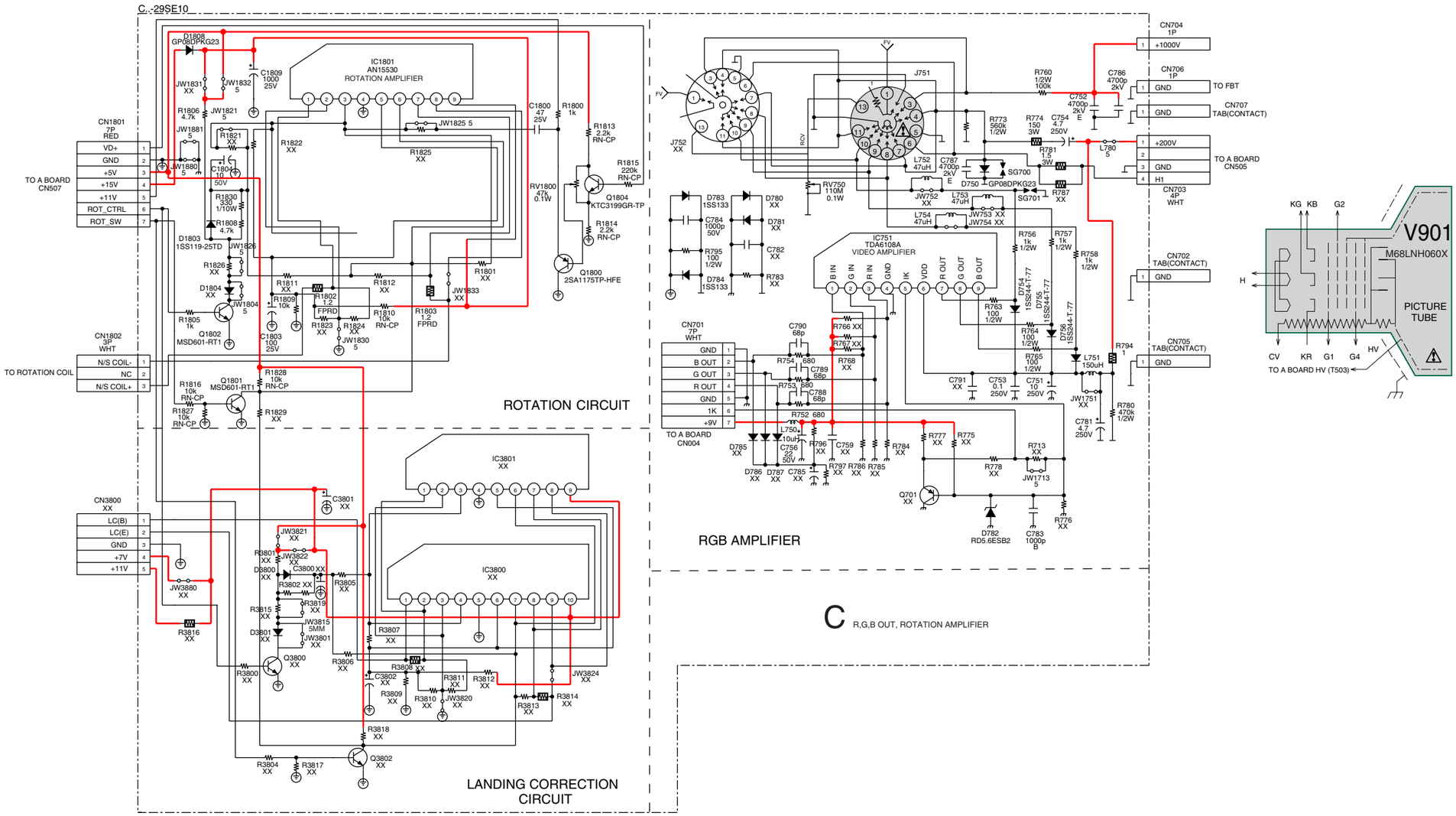
DY

COMPONENTS MARKED AS XX ARE NOT FITTED ON THIS MODEL

~ A Board Schematic Diagram [Horizontal Deflection, FBT & OCP] Page 6/6 ~

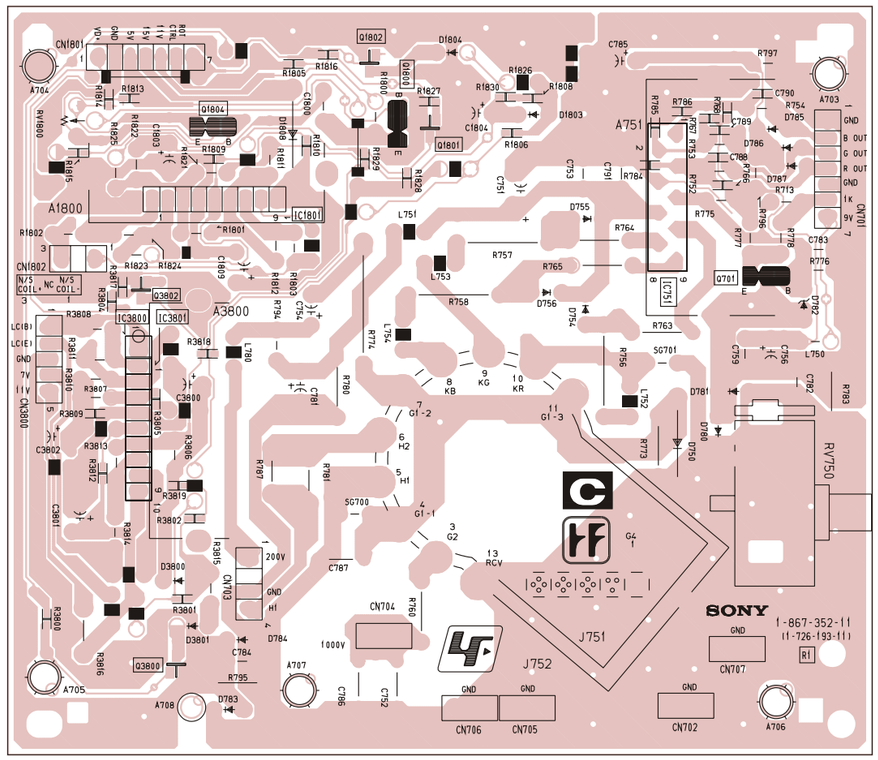


~ A Printed Wiring Board Conductor side ~

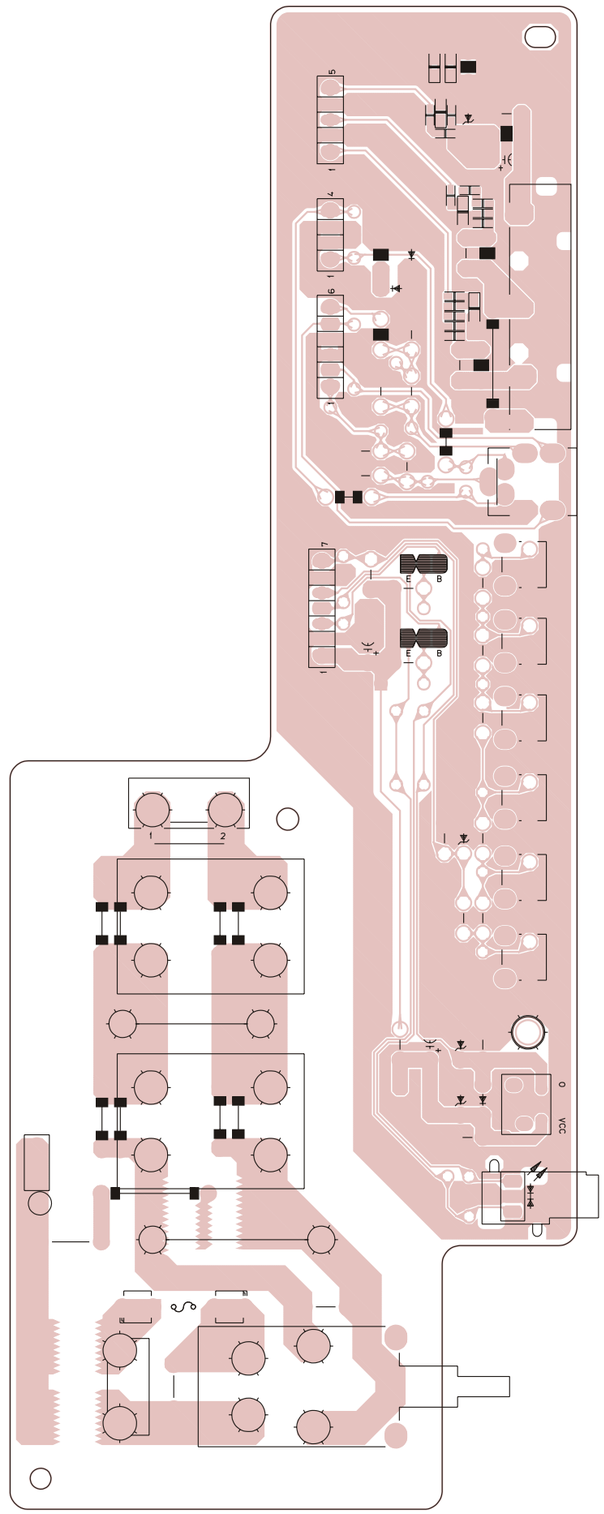


~ C Board Schematic Diagram [RGB Out, Rotation Amplifier] ~

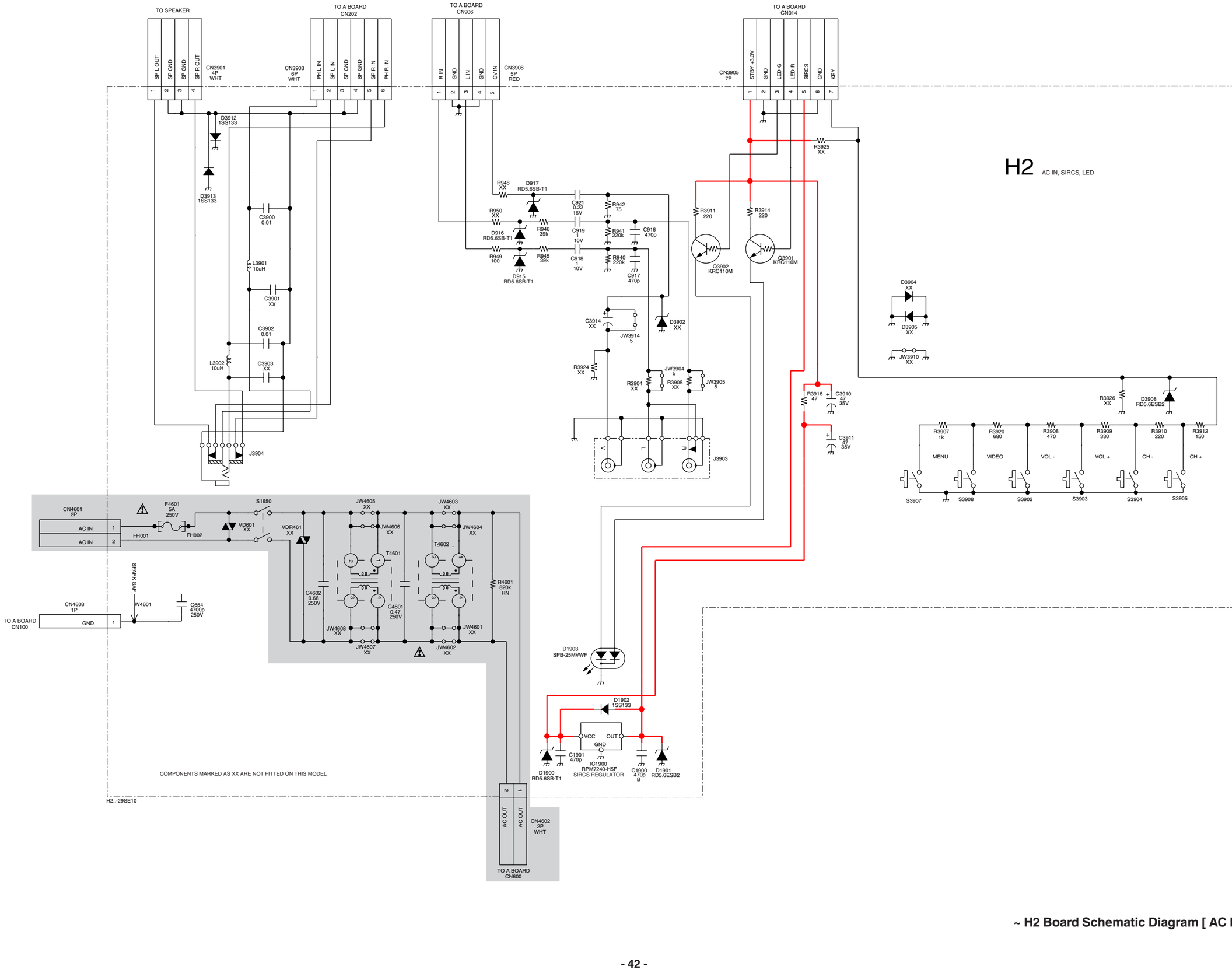
~ C Printed Wiring Board Conductor side ~



~ H2 Printed Wiring Board Conductor side ~



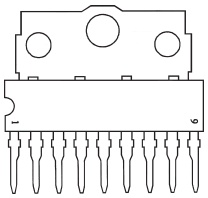
H2 AC IN, SIRCS, LED



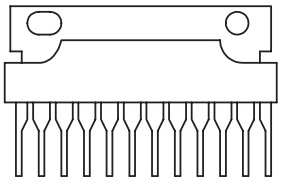
~ H2 Board Schematic Diagram [AC In, SIRCS LED] ~

5-4. SEMICONDUCTORS

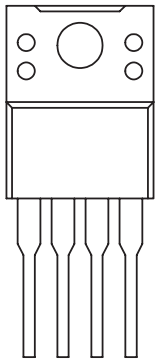
AN15530A



AN17808A



KIA78R05API



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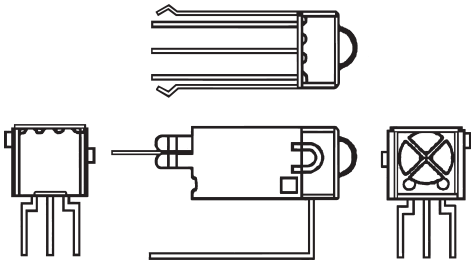

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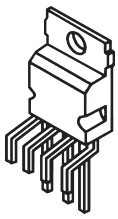

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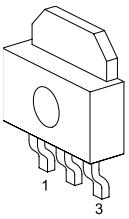
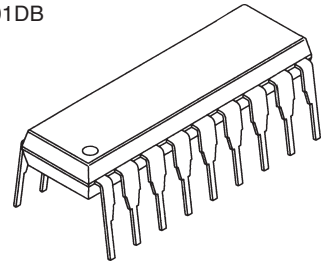
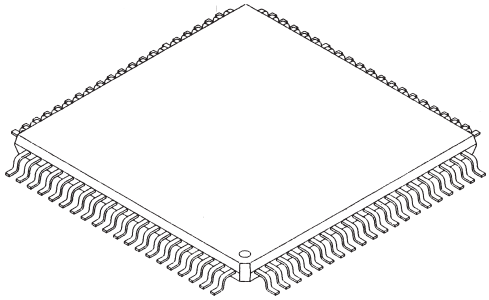


MCZ3001DB



TDA12027H1/N1E8B



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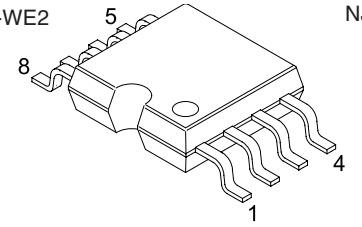

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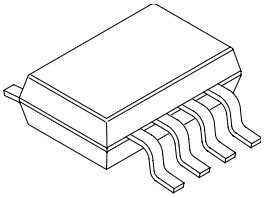

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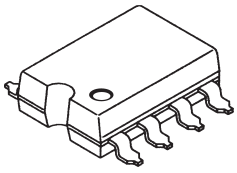

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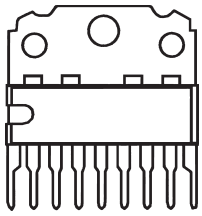
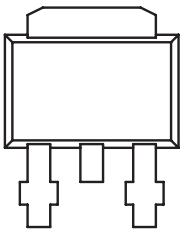


KIA78D33F



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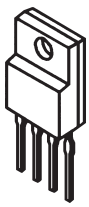


SECTION 6
EXPLODED VIEWS

Note : Les composants indentifies par une trame et par une marque ⚠ sonte d'une importance critique pour la securite. Ne les remplacer que par des pieces du numero specifie.

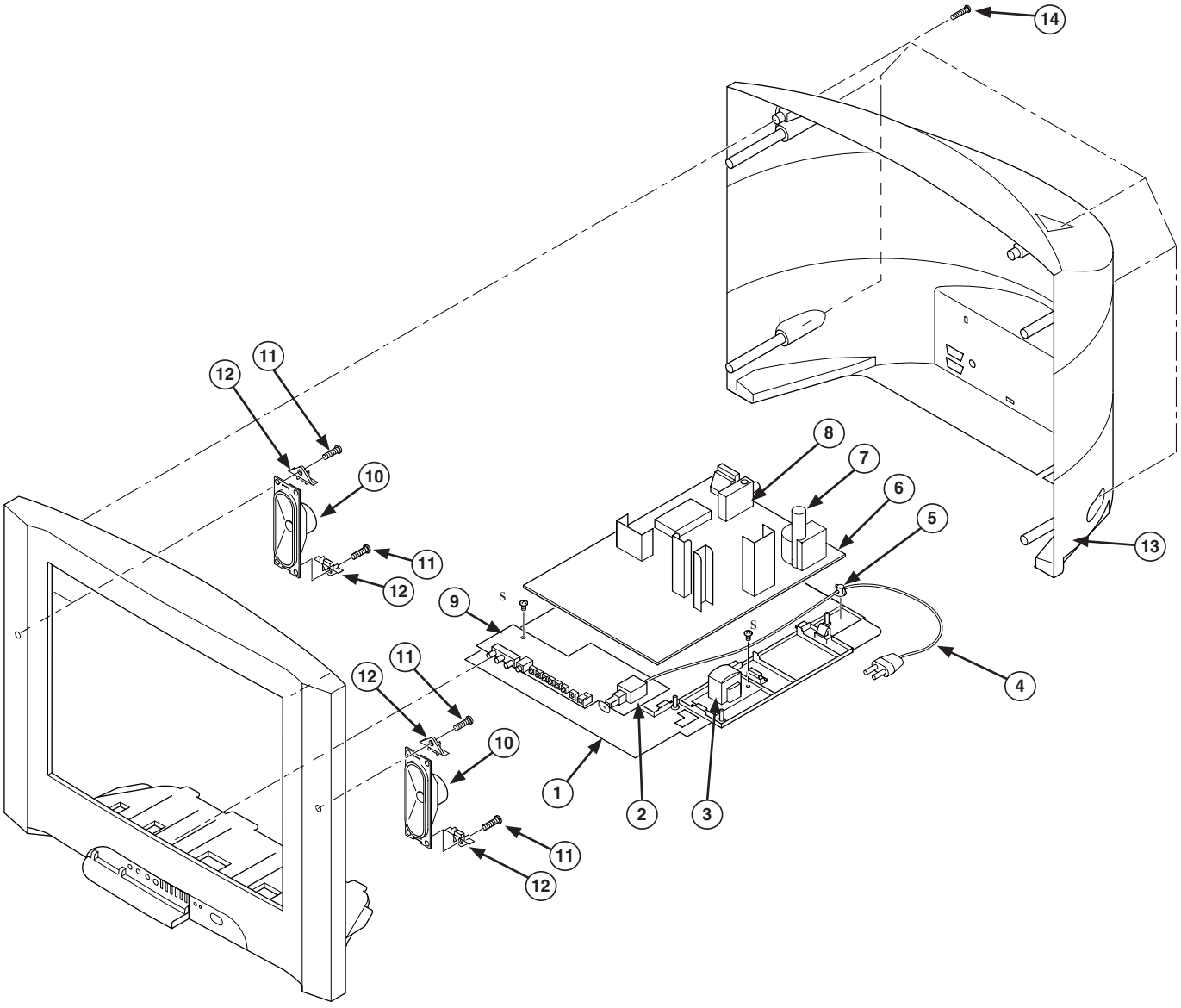
Note : The components identified by shading and marked ⚠ are critical for safety. Replace only with the part numbers specified in the parts list.

NOTE :

- Items with no part number and no description are not stocked because they are seldom required for routine service.
- The construction parts of an assembled part are indicated with a collation number in the remarks column.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

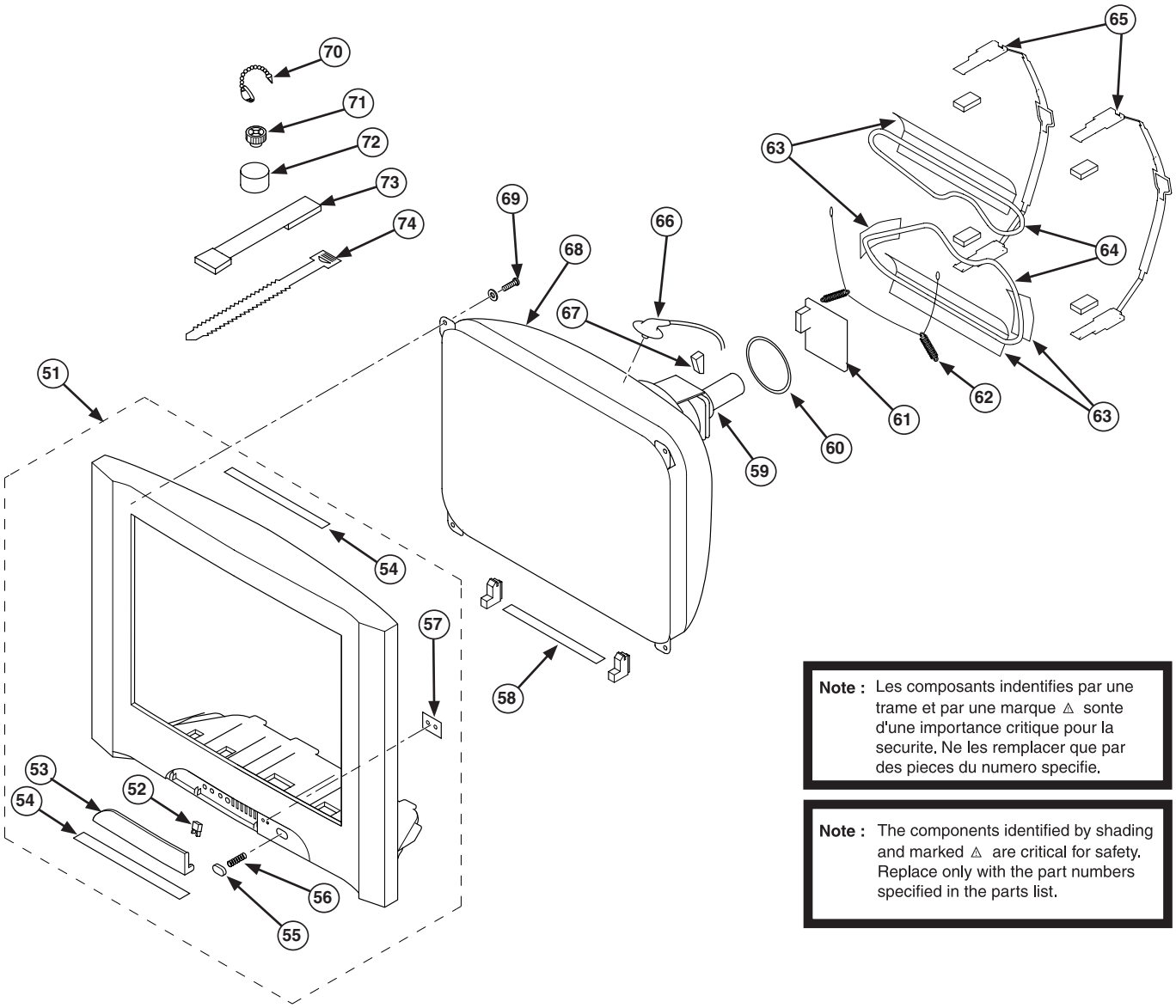
6-1. CHASSIS

s 7-685-648-79 SCREW +BVTP 3X12 TYPE2 IT-3



REF.NO.		PART.NO	DESCRIPTION	REMARK
1		*2-635-637-01	MAIN BRACKET	
2	⚠	1-786-649-12	SWITCH, AC POWER PUSH	
3		1-424-733-11	COIL, PFC CHOKE 65MMH	
4	⚠	1-823-853-13	CORD, POWER	
5		*4-202-531-01	AC CORD LOCK SC	
6		*A-1127-621-A	A BOARD, COMPLETE (KV-29SE10B)	
		*A-1127-714-A	A BOARD, COMPLETE (KV-29SE10E & K)	
7	⚠	1-453-471-11	TRANSFORMER ASSY, FLYBACK (NX-4009//Z2B4)	
8		1-693-691-11	TUNER (TEQE2-011A)	
9		*A-1127-614-A	H2 BOARD, COMPLETE	
10		1-825-691-12	SPEAKER (15X6.5CM)	
11		4-095-941-01	SCREW (WH DIA. 16) (+P 4X16)	
12		*4-046-981-41	BRACKET, SPEAKER	
13		2-634-910-01	REAR COVER	
14		7-685-663-71	SCREW +BVTP 4X16 TYPE2 IT-3	

6-2. PICTURE TUBE



Note : Les composants indentifies par une trame et par une marque ⚠ sonte d'une importance critique pour la securite. Ne les remplacer que par des pieces du numero specifie.

Note : The components identified by shading and marked ⚠ are critical for safety. Replace only with the part numbers specified in the parts list.

REF.NO.		PART.NO	DESCRIPTION	REMARK
51		X-2059-871-1	BEZNET ASSY	52-57
52		4-093-657-01	SPRING, METAL	
53		2-635-632-01	DOOR, CONTROL	
54		4-204-865-21	SHEET, BLOTTING	
55		2-635-631-01	POWER BUTTON	
56		4-204-426-01	SPRING	
57		*2-635-633-01	GUIDE LIGHT	
58		4-204-666-01	SHEET, BLOTTING	
59	⚠	8-451-494-71	DEFLECTION YOKE Y29RSA-L3	
60		1-452-896-11	COIL, NA ROTATION (RT-200)	
61		*A-1127-612-A	C BOARD, COMPLETE	
62		4-095-706-01	SPRING, EXTENSION	

REF.NO.		PART.NO	DESCRIPTION	REMARK
63		*4-088-870-31	CUSHION, DGC	
64	⚠	1-424-887-12	COIL, DEGAUSSING	
65		*4-204-768-02	HOLDER, DGC (29")	
66	⚠	1-251-715-12	CAP ASSY, HIGH VOLTAGE	
67		4-072-365-04	SPACER, DY	
68	⚠	8-735-246-05	PICTURE TUBE (M68LNH060X)	
69		4-046-765-12	SCREW, TAPPING 7+CROWN WASHER	
70		4-308-870-00	CLIP, LEAD WIRE	
71		1-452-014-11	CIRCULAR DISC MAGNET B	
72		1-452-032-00	MAGNET, DISC	
73		X-4387-214-3	PERMALOY ASSY, CORRECTION	
74		3-701-007-00	BAND, BINDING	

SECTION 7
ELECTRICAL PARTS LIST

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Note : Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
Parts indicated (XX) on the Schematic Diagram are not used in this model and therefore do not appear in the Parts List.

Note : The components identified by shading and marked ⚠ are critical for safety. Replace only with the part numbers specified in the parts list.

C

*A-1127-612-A C Board, Complete

REF.NO.	PART.NO	DESCRIPTION		REMARK
	1-900-262-86	LEAD ASSY, FOCUS		
	4-382-854-01	SCREW (M3X8), P, SW (+)		
		< CAPACITOR >		
C751	1-107-652-11	ELECT	10UF	20.00% 250V
C752	1-115-350-51	CERAMIC	0.0047UF	2KV
C753	1-136-189-00	MYLAR	0.1UF	10.00% 250V
C754	1-107-651-11	ELECT	4.7UF	20.00% 250V
C756	1-126-965-91	ELECT	22UF	20.00% 50V
C781	1-107-651-11	ELECT	4.7UF	20.00% 250V
C783	1-102-074-00	CERAMIC	0.001UF	10.00% 50V
C784	1-102-074-00	CERAMIC	0.001UF	10.00% 50V
C786	1-115-350-51	CERAMIC	0.0047UF	2KV
C787	1-115-350-51	CERAMIC	0.0047UF	2KV
C788	1-162-925-11	CERAMIC CHIP	68PF	5.00% 50V
C789	1-162-925-11	CERAMIC CHIP	68PF	5.00% 50V
C790	1-162-925-11	CERAMIC CHIP	68PF	5.00% 50V
C1800	1-107-701-11	ELECT	47UF	20% 25V
C1803	1-104-665-11	ELECT	100UF	20.00% 25V
C1804	1-126-964-11	ELECT	10UF	20.00% 50V
C1809	1-126-942-61	ELECT	1000UF	20.00% 25V
		< CONNECTOR >		
CN701	*1-564-510-11	PLUG, CONNECTOR 7P		
CN702	1-695-915-11	TAB (CONTACT)		
CN703	*1-564-507-11	PLUG, CONNECTOR 4P		
CN704	1-695-915-11	TAB (CONTACT)		
CN705	1-695-915-11	TAB (CONTACT)		
CN706	1-695-915-11	TAB (CONTACT)		
CN707	1-695-915-11	TAB (CONTACT)		
CN1801	*1-564-510-11	PLUG, CONNECTOR 7P		
CN1802	*1-564-506-11	PLUG, CONNECTOR 3P		
		< DIODE >		
D750	8-719-908-03	DIODE GP08D		
D754	8-719-970-83	DIODE HSS82-TJ		
D755	8-719-970-83	DIODE HSS82-TJ		
D756	8-719-970-83	DIODE HSS82-TJ		
D782	8-719-109-89	DIODE RD5.6ESB2		
D783	8-719-991-33	DIODE 1SS133T-77		
D784	8-719-991-33	DIODE 1SS133T-77		
D1803	8-719-911-19	DIODE 1SS119-25		
D1808	8-719-908-03	DIODE GP08D		
		< IC >		
IC751	6-703-482-01	IC TDA6108AJF/N1		
IC1801	6-706-557-01	IC AN15530A		

REF.NO.		PART.NO	DESCRIPTION			REMARK
			< SOCKET >			
J751	⚠	1-451-544-11	SOCKET, CRT			
			< COIL >			
L750		1-414-856-11	INDUCTOR	10UH		
L751		1-412-539-11	INDUCTOR	150UH		
L752		1-414-938-21	INDUCTOR	47UH		
L753		1-414-938-21	INDUCTOR	47UH		
L754		1-414-938-21	INDUCTOR	47UH		
L780		1-535-303-00	LEAD, JUMPER (5.0MM)			
			< TRANSISTOR >			
Q1800		8-729-119-76	TRANSISTOR 2SA1175-HFE			
Q1801		8-729-010-25	TRANSISTOR MSD601-RT1			
Q1802		8-729-010-25	TRANSISTOR MSD601-RT1			
Q1804		8-729-016-42	TRANSISTOR KTC3199GR-TP			
			< RESISTOR >			
R752		1-249-415-11	CARBON	680	5%	1/4W
R753		1-249-415-11	CARBON	680	5%	1/4W
R754		1-249-415-11	CARBON	680	5%	1/4W
R756		1-219-746-11	METAL	1K	5%	1/2W
R757		1-219-746-11	METAL	1K	5%	1/2W
R758		1-219-746-11	METAL	1K	5%	1/2W
R760		1-260-123-11	CARBON	100K	5%	1/2W
R763		1-260-087-11	CARBON	100	5%	1/2W
R764		1-260-087-11	CARBON	100	5%	1/2W
R765		1-260-087-11	CARBON	100	5%	1/2W
R773		1-260-132-11	CARBON	560K	5%	1/2W
R774		1-215-912-11	METAL OXIDE	150	5%	3W
R780		1-260-131-11	CARBON	470K	5%	1/2W
R781		1-243-509-71	METAL OXIDE	1.5	5%	3W
R794		1-249-381-11	CARBON	1	5%	1/4W
R795		1-260-087-11	CARBON	100	5%	1/2W
R1800		1-249-417-11	CARBON	1K	5%	1/4W
R1802		1-249-382-11	CARBON	1.2	5%	1/4W
R1803		1-249-382-11	CARBON	1.2	5%	1/4W
R1805		1-216-821-11	METAL CHIP	1K	5%	1/10W
R1806		1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R1808		1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R1809		1-216-833-11	METAL CHIP	10K	5%	1/10W
R1810		1-216-833-11	METAL CHIP	10K	5%	1/10W
R1813		1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R1814		1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R1815		1-216-849-11	METAL CHIP	220K	5%	1/10W
R1816		1-216-833-11	METAL CHIP	10K	5%	1/10W
R1827		1-216-833-11	METAL CHIP	10K	5%	1/10W
R1828		1-216-833-11	METAL CHIP	10K	5%	1/10W
R1830		1-216-815-11	METAL CHIP	330	5%	1/10W

Note : The components identified by shading and marked ⚠ are critical for safety. Replace only with the part numbers specified in the parts list.

REF.NO.		PART.NO	DESCRIPTION	REMARK
			< RESISTOR VARIABLE >	
RV750		1-241-656-21	RES, ADJ, METAL FILM 110M	
RV1800		1-238-019-11	RES, ADJ, CARBON 47K	
			< SPARK GAP >	
SG700		1-519-421-11	GAP, DISCHARGE	
SG701		1-519-421-11	GAP, DISCHARGE	

*A-1127-614-A H2 Board Complete

A3901		*4-055-304-01	HOLDER, LED	
			< CAPACITOR >	
C654		1-117-703-11	CERAMIC 0.0047UF 99% 250V	
C916		1-164-315-11	CERAMIC CHIP 470PF 5.00% 50V	
C917		1-164-315-11	CERAMIC CHIP 470PF 5.00% 50V	
C918		1-165-908-11	CERAMIC CHIP 1UF 10% 10V	
C919		1-165-908-11	CERAMIC CHIP 1UF 10% 10V	
C921		1-127-715-91	CERAMIC CHIP 0.22UF 10% 16V	
C1900		1-102-114-00	CERAMIC 470PF 10.00% 50V	
C1901		1-102-114-00	CERAMIC 470PF 10.00% 50V	
C3900		1-137-150-11	FILM 0.01UF 5.00% 100V	
C3902		1-137-150-11	FILM 0.01UF 5.00% 100V	
C3910		1-126-947-11	ELECT 47UF 20.00% 35V	
C3911		1-126-947-11	ELECT 47UF 20.00% 35V	
C4601	⚠	1-165-530-31	MYLAR 0.47UF 10 0V	
C4602	⚠	1-109-835-11	MYLAR 0.68UF 20.00% 250V	
			< CONNECTOR >	
CN3901		*1-564-507-11	PLUG, CONNECTOR 4P	
CN3903		*1-564-509-11	PLUG, CONNECTOR 6P	
CN3905		*1-564-510-11	PLUG, CONNECTOR 7P	
CN3908		*1-564-508-11	PLUG, CONNECTOR 5P	
CN4601	⚠	*1-580-843-11	PIN, CONNECTOR (POWER)	
CN4602	⚠	1-580-843-11	PIN, CONNECTOR (POWER)	
CN4603		1-695-915-11	TAB (CONTACT)	
			< DIODE >	
D915		8-719-036-94	DIODE RD5.6SB-T1	
D916		8-719-036-94	DIODE RD5.6SB-T1	
D917		8-719-036-94	DIODE RD5.6SB-T1	
D1900		8-719-109-89	DIODE RD5.6ESB2	
D1901		8-719-109-89	DIODE RD5.6ESB2	
D1902		8-719-991-33	DIODE 1SS133T-77	
D1903		8-719-083-18	DIODE SPB-25MVWF	
D3908		8-719-109-89	DIODE RD5.6ESB2	
D3912		8-719-991-33	DIODE 1SS133T-77	
D3913		8-719-991-33	DIODE 1SS133T-77	

REF.NO.		PART.NO	DESCRIPTION	REMARK
			< FUSE >	
F4601	⚠	1-576-232-51	FUSE 5A 250V	
FH001	⚠	1-533-223-11	FUSE HOLDER	
FH002	⚠	1-533-223-11	FUSE HOLDER	
			< IC >	
IC1900		6-704-532-01	IC RPM7240-H5	
			< SOCKET >	
J3903		1-770-329-13	JACK, PIN 3P	
J3904		1-770-786-22	JACK	
			< COIL >	
L3901		1-414-183-41	INDUCTOR 10UH	
L3902		1-414-183-41	INDUCTOR 10UH	
			< TRANSISTOR >	
Q3901		8-729-036-80	TRANSISTOR KRC110M	
Q3902		8-729-036-80	TRANSISTOR KRC110M	
			< RESISTOR >	
R940		1-216-849-11	METAL CHIP 220K 5% 1/10W	
R941		1-216-849-11	METAL CHIP 220K 5% 1/10W	
R942		1-218-285-11	METAL CHIP 75 5% 1/10W	
R945		1-216-840-11	METAL CHIP 39K 5% 1/10W	
R946		1-216-840-11	METAL CHIP 39K 5% 1/10W	
R949		1-216-809-11	METAL CHIP 100 5% 1/10W	
R3907		1-249-417-11	CARBON 1K 5% 1/4W	
R3908		1-249-413-11	CARBON 470 5% 1/4W	
R3909		1-249-411-11	CARBON 330 5% 1/4W	
R3910		1-249-409-11	CARBON 220 5% 1/4W	
R3911		1-249-409-11	CARBON 220 5% 1/4W	
R3912		1-249-407-11	CARBON 150 5% 1/4W	
R3914		1-249-409-11	CARBON 220 5% 1/4W	
R3916		1-249-401-11	CARBON 47 5% 1/4W	
R3920		1-249-415-11	CARBON 680 5% 1/4W	
R4601	⚠	1-243-994-91	METAL 820K 5% 0.5W	
			< SWITCH >	
S1650	⚠	1-786-649-12	SWITCH, AC POWER PUSH	
S3902		1-692-431-21	SWITCH, TACTILE	
S3903		1-692-431-21	SWITCH, TACTILE	
S3904		1-692-431-21	SWITCH, TACTILE	
S3905		1-692-431-21	SWITCH, TACTILE	
S3907		1-692-431-21	SWITCH, TACTILE	
S3908		1-692-431-21	SWITCH, TACTILE	

Note : The components identified by shading and marked ⚠ are critical for safety. Replace only with the part numbers specified in the parts list.

REF.NO.		PART.NO	DESCRIPTION	REMARK
			< TRANSFORMER >	
T4601	⚠	1-431-182-11	TRANSFORMER, LINE FILTER	
T4602	⚠	1-431-182-11	TRANSFORMER, LINE FILTER	

***A-1127-621-A A Board, Complete (KV-29SE10B)**
***A-1127-714-A A Board, Complete (KV-29SE10E & K)**

A Board, Common Parts

	1-543-298-11	FERRITE 0UH	
	4-382-854-01	SCREW (M3X8), P, SW (+)	
	4-382-854-01	SCREW (M3X8), P, SW (+)	
		< CAPACITOR >	
C001	1-162-927-11	CERAMIC CHIP 100PF	5.00% 50V
C002	1-126-947-11	ELECT 47UF	20.00% 35V
C003	1-162-927-11	CERAMIC CHIP 100PF	5.00% 50V
C004	1-164-315-11	CERAMIC CHIP 470PF	5.00% 50V
C006	1-126-933-11	ELECT 100UF	20.00% 16V
C010	1-164-315-11	CERAMIC CHIP 470PF	5.00% 50V
C011	1-127-715-91	CERAMIC CHIP 0.22UF	10% 16V
C012	1-127-715-91	CERAMIC CHIP 0.22UF	10% 16V
C013	1-126-925-91	ELECT 470UF	20.00% 10V
C014	1-127-715-91	CERAMIC CHIP 0.22UF	10% 16V
C015	1-126-964-11	ELECT 10UF	20.00% 50V
C018	1-127-715-91	CERAMIC CHIP 0.22UF	10% 16V
C019	1-127-715-91	CERAMIC CHIP 0.22UF	10% 16V
C020	1-107-826-11	CERAMIC CHIP 0.1UF	10.00% 16V
C021	1-162-927-11	CERAMIC CHIP 100PF	5.00% 50V
C022	1-127-715-91	CERAMIC CHIP 0.22UF	10% 16V
C023	1-127-715-91	CERAMIC CHIP 0.22UF	10% 16V
C024	1-126-965-91	ELECT 22UF	20.00% 50V
C025	1-127-715-91	CERAMIC CHIP 0.22UF	10% 16V
C026	1-126-947-11	ELECT 47UF	20.00% 35V
C028	1-107-826-11	CERAMIC CHIP 0.1UF	10.00% 16V
C029	1-126-965-91	ELECT 22UF	20.00% 50V
C030	1-127-715-91	CERAMIC CHIP 0.22UF	10% 16V
C031	1-126-935-11	ELECT 470UF	20.00% 16V
C033	1-162-964-11	CERAMIC CHIP 0.001UF	10.00% 50V
C036	1-104-665-11	ELECT 100UF	20.00% 25V
C037	1-164-505-11	CERAMIC CHIP 2.2UF	16V
C038	1-107-826-11	CERAMIC CHIP 0.1UF	10.00% 16V
C040	1-162-979-11	CERAMIC CHIP 0.0027UF	10.00% 50V
C041	1-162-966-11	CERAMIC CHIP 0.0022UF	10.00% 50V
C042	1-127-715-91	CERAMIC CHIP 0.22UF	10% 16V
C044	1-125-889-91	CERAMIC CHIP 2.2UF	10% 10V
C046	1-162-969-11	CERAMIC CHIP 0.0068UF	10.00% 25V
C048	1-127-715-91	CERAMIC CHIP 0.22UF	10% 16V
C049	1-164-227-11	CERAMIC CHIP 0.022UF	10.00% 25V
C050	1-126-964-11	ELECT 10UF	20.00% 50V
C052	1-162-964-11	CERAMIC CHIP 0.001UF	10.00% 50V
C053	1-164-227-11	CERAMIC CHIP 0.022UF	10.00% 25V
C054	1-107-826-11	CERAMIC CHIP 0.1UF	10.00% 16V
C055	1-100-829-11	FILM 0.15UF	5% 250V
C056	1-104-665-11	ELECT 100UF	20.00% 25V
C057	1-162-970-11	CERAMIC CHIP 0.01UF	10.00% 25V
C058	1-162-964-11	CERAMIC CHIP 0.001UF	10.00% 50V
C060	1-107-826-11	CERAMIC CHIP 0.1UF	10.00% 16V
C061	1-162-968-11	CERAMIC CHIP 0.0047UF	10.00% 50V
C062	1-107-826-11	CERAMIC CHIP 0.1UF	10.00% 16V
C063	1-107-826-11	CERAMIC CHIP 0.1UF	10.00% 16V
C064	1-126-961-11	ELECT 2.2UF	20.00% 50V
C065	1-126-962-11	ELECT 3.3UF	20.00% 50V
C067	1-107-826-11	CERAMIC CHIP 0.1UF	10.00% 16V
C069	1-107-826-11	CERAMIC CHIP 0.1UF	10.00% 16V
C070	1-107-826-11	CERAMIC CHIP 0.1UF	10.00% 16V
C072	1-162-970-11	CERAMIC CHIP 0.01UF	10.00% 25V
C073	1-126-961-11	ELECT 2.2UF	20.00% 50V
C077	1-216-864-11	SHORT CHIP 0	
C080	1-162-964-11	CERAMIC CHIP 0.001UF	10.00% 50V
C081	1-162-964-11	CERAMIC CHIP 0.001UF	10.00% 50V
C085	1-107-826-11	CERAMIC CHIP 0.1UF	10.00% 16V
C089	1-162-964-11	CERAMIC CHIP 0.001UF	10.00% 50V
C090	1-162-927-11	CERAMIC CHIP 100PF	5.00% 50V
C091	1-162-927-11	CERAMIC CHIP 100PF	5.00% 50V
C092	1-126-935-11	ELECT 470UF	20.00% 16V
C093	1-126-933-11	ELECT 100UF	20.00% 16V
C098	1-127-715-91	CERAMIC CHIP 0.22UF	10% 16V
C100	1-162-964-11	CERAMIC CHIP 0.001UF	10.00% 50V
C101	1-126-933-11	ELECT 100UF	20.00% 16V
C102	1-162-927-11	CERAMIC CHIP 100PF	5.00% 50V
C104	1-162-927-11	CERAMIC CHIP 100PF	5.00% 50V
C106	1-126-933-11	ELECT 100UF	20.00% 16V
C107	1-126-935-11	ELECT 470UF	20.00% 16V
C108	1-126-935-11	ELECT 470UF	20.00% 16V
C109	1-162-968-11	CERAMIC CHIP 0.0047UF	10.00% 50V
C112	1-163-021-91	CERAMIC CHIP 0.01UF	10.00% 50V
C116	1-162-968-11	CERAMIC CHIP 0.0047UF	10.00% 50V
C118	1-126-965-91	ELECT 22UF	20.00% 50V
C119	1-163-021-91	CERAMIC CHIP 0.01UF	10.00% 50V
C120	1-126-935-11	ELECT 470UF	20.00% 16V
C138	1-163-009-91	CERAMIC CHIP 0.001UF	10.00% 50V
C143	1-102-074-00	CERAMIC 0.001UF	10.00% 50V
C200	1-107-826-11	CERAMIC CHIP 0.1UF	10.00% 16V
C201	1-107-826-11	CERAMIC CHIP 0.1UF	10.00% 16V
C202	1-165-176-11	CERAMIC CHIP 0.047UF	10.00% 16V
C203	1-165-176-11	CERAMIC CHIP 0.047UF	10.00% 16V
C204	1-130-495-00	MYLAR 0.1UF	5.00% 50V
C205	1-126-959-11	ELECT 0.47UF	20.00% 50V
C206	1-162-969-11	CERAMIC CHIP 0.0068UF	10.00% 25V

Note : The components identified by shading and marked ⚠ are critical for safety. Replace only with the part numbers specified in the parts list.

A

REF.NO.	PART.NO	DESCRIPTION	REMARK
C207	1-130-495-00	MYLAR 0.1UF	5.00% 50V
C208	1-162-969-11	CERAMIC CHIP 0.0068UF	10.00% 25V
C209	1-126-959-11	ELECT 0.47UF	20.00% 50V
C210	1-126-968-11	ELECT 100UF	20.00% 50V
C211	1-126-964-11	ELECT 10UF	20.00% 50V
C213	1-115-339-11	CERAMIC CHIP 0.1UF	10.00% 50V
C214	1-126-942-61	ELECT 1000UF	20.00% 25V
C215	1-128-550-11	ELECT 2200UF	20.00% 50V
C216	1-126-965-91	ELECT 22UF	20.00% 50V
C217	1-126-942-61	ELECT 1000UF	20.00% 25V
C218	1-126-965-91	ELECT 22UF	20.00% 50V
C219	1-126-934-11	ELECT 220UF	20.00% 16V
C220	1-126-964-11	ELECT 10UF	20.00% 50V
C231	1-137-374-11	MYLAR 0.047UF	5.00% 50V
C232	1-137-374-11	MYLAR 0.047UF	5.00% 50V
C234	1-164-315-11	CERAMIC CHIP 470PF	5.00% 50V
C235	1-164-315-11	CERAMIC CHIP 470PF	5.00% 50V
C238	1-164-505-11	CERAMIC CHIP 2.2UF	16V
C300	1-127-715-91	CERAMIC CHIP 0.22UF	10% 16V
C301	1-164-315-11	CERAMIC CHIP 470PF	5.00% 50V
C302	1-126-964-11	ELECT 10UF	20.00% 50V
C303	1-126-933-11	ELECT 100UF	20.00% 16V
C304	1-104-665-11	ELECT 100UF	20.00% 25V
C305	1-104-665-11	ELECT 100UF	20.00% 25V
C306	1-107-826-11	CERAMIC CHIP 0.1UF	10.00% 16V
C308	1-107-826-11	CERAMIC CHIP 0.1UF	10.00% 16V
C309	1-126-964-11	ELECT 10UF	20.00% 50V
C311	1-107-826-11	CERAMIC CHIP 0.1UF	10.00% 16V
C316	1-125-891-11	CERAMIC CHIP 0.47UF	10.00% 10V
C321	1-126-935-11	ELECT 470UF	20.00% 16V
C322	1-126-947-11	ELECT 47UF	20.00% 35V
C323	1-107-826-11	CERAMIC CHIP 0.1UF	10.00% 16V
C324	1-126-933-11	ELECT 100UF	20.00% 16V
C325	1-164-315-11	CERAMIC CHIP 470PF	5.00% 50V
C329	1-162-925-11	CERAMIC CHIP 68PF	5.00% 50V
C330	1-107-826-11	CERAMIC CHIP 0.1UF	10.00% 16V
C502	1-163-145-00	CERAMIC CHIP 0.0015UF	5.00% 50V
C506	1-107-638-11	ELECT 33UF	20.00% 160V
C507	1-102-244-00	CERAMIC 220PF	10.00% 500V
C513	1-162-970-11	CERAMIC CHIP 0.01UF	10.00% 25V
C514	1-106-383-00	MYLAR 0.047UF	10.00% 200V
C517	1-162-970-11	CERAMIC CHIP 0.01UF	10.00% 25V
C519	1-102-228-00	CERAMIC 470PF	10.00% 500V
C521	1-126-964-11	ELECT 10UF	20.00% 50V
C523	1-102-228-00	CERAMIC 470PF	10.00% 500V
C527	1-163-021-91	CERAMIC CHIP 0.01UF	10.00% 50V
C530	1-137-372-11	MYLAR 0.022UF	5.00% 50V
C531	1-107-903-11	ELECT 2.2UF	20% 50V
C532	1-126-941-11	ELECT 470UF	20.00% 25V
C533	1-126-941-11	ELECT 470UF	20.00% 25V
C537	1-107-911-11	ELECT 220UF	20% 50V
C538	1-117-651-21	FILM 20000PF	3.00% 1.2KV
C539	1-129-723-00	FILM 0.056UF	5.00% 630V
C540	1-136-171-00	FILM 0.33UF	5.00% 50V
C550	1-106-220-00	MYLAR 0.1UF	10.00% 100V
C552	1-162-116-00	CERAMIC 680PF	10.00% 2KV
C553	1-162-116-00	CERAMIC 680PF	10.00% 2KV
C554	1-106-359-00	MYLAR 0.0047UF	5.00% 200V
C556	1-126-941-11	ELECT 470UF	20.00% 25V
C557	1-126-941-11	ELECT 470UF	20.00% 25V
C558	1-165-441-81	ELECT 33UF	20% 160V
C561	1-129-708-91	FILM 0.0033UF	5.00% 630V
C565	1-107-645-11	ELECT 22UF	20.00% 200V
C567	1-109-844-11	FILM 0.68UF	5.00% 400V
C568	1-102-228-00	CERAMIC 470PF	10.00% 500V
C570	1-117-671-91	FILM 1UF	5% 250V
C572	1-117-661-71	FILM 0.15UF	5% 250V
C574	1-107-635-11	ELECT 4.7UF	20.00% 160V
C577	1-106-395-00	MYLAR 0.15UF	10.00% 200V
C578	1-162-964-11	CERAMIC CHIP 0.001UF	10.00% 50V
C584	1-162-927-11	CERAMIC CHIP 100PF	5.00% 50V
C587	1-130-777-00	MYLAR 0.1UF	5.00% 100V
C588	1-162-964-11	CERAMIC CHIP 0.001UF	10.00% 50V
C590	1-162-968-11	CERAMIC CHIP 0.0047UF	10.00% 50V
C591	1-216-864-11	SHORT CHIP 0	
C592	1-162-964-11	CERAMIC CHIP 0.001UF	10.00% 50V
C593	1-162-927-11	CERAMIC CHIP 100PF	5.00% 50V
C597	1-126-933-11	ELECT 100UF	20.00% 16V
C598	1-125-889-91	CERAMIC CHIP 2.2UF	10% 10V
C600 ⚠	1-165-529-31	MYLAR 0.22UF	10 0V
C601	1-126-934-11	ELECT 220UF	20.00% 16V
C606	1-163-038-91	CERAMIC CHIP 0.1UF	25V
C608 ⚠	1-119-892-51	CERAMIC 470PF	10.00% 250V
C609 ⚠	1-119-892-51	CERAMIC 470PF	10.00% 250V
C610	1-126-959-11	ELECT 0.47UF	20.00% 50V
C613 ⚠	1-161-830-00	CERAMIC 0.0047UF	99% 500V
C614 ⚠	1-161-830-00	CERAMIC 0.0047UF	500V
C615 ⚠	1-161-830-00	CERAMIC 0.0047UF	500V
C616 ⚠	1-161-830-00	CERAMIC 0.0047UF	99% 500V
C619	1-117-753-11	ELECT(BLOCK) 470UF	20.00% 450V
C629	1-107-726-91	CERAMIC CHIP 0.01UF	10.00% 16V
C631	1-136-479-11	FILM 0.001UF	5.00% 100V
C632	1-126-963-11	ELECT 4.7UF	20.00% 50V
C633	1-163-275-11	CERAMIC CHIP 0.001UF	5.00% 50V
C635	1-126-964-11	ELECT 10UF	20.00% 50V
C636	1-126-963-11	ELECT 4.7UF	20.00% 50V
C637	1-163-009-91	CERAMIC CHIP 0.001UF	10.00% 50V
C647	1-126-964-11	ELECT 10UF	20.00% 50V
C648	1-136-497-81	FILM 0.1UF	5.00% 50V
C650	1-125-969-91	CERAMIC 680PF	10.00% 1KV

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REF.NO.		PART.NO	DESCRIPTION	REMARK
C651		1-125-969-91	CERAMIC 680PF	10.00% 1KV
C652		1-126-949-11	ELECT 220UF	20.00% 35V
C653		1-165-953-11	FILM 47000PF	3% 800V
C655		1-126-952-11	ELECT 1000UF	20.00% 35V
C656		1-125-969-91	CERAMIC 680PF	10.00% 1KV
C657		1-125-969-91	CERAMIC 680PF	10.00% 1KV
C658		1-163-021-91	CERAMIC CHIP 0.01UF	10.00% 50V
C659		1-125-969-91	CERAMIC 680PF	10.00% 1KV
C660		1-125-969-91	CERAMIC 680PF	10.00% 1KV
C661		1-104-330-91	CERAMIC 470PF	10.00% 1KV
C662		1-126-936-11	ELECT 3300UF	20.00% 16V
C663		1-110-626-11	ELECT 330UF	20.00% 160V
C666		1-126-943-11	ELECT 2200UF	20.00% 25V
C667		1-128-550-11	ELECT 2200UF	20.00% 50V
C670		1-126-965-91	ELECT 22UF	20.00% 50V
C678		1-126-933-11	ELECT 100UF	20.00% 16V
C679		1-125-891-11	CERAMIC CHIP 0.47UF	10.00% 10V
C680		1-126-933-11	ELECT 100UF	20.00% 16V
C681		1-126-933-11	ELECT 100UF	20.00% 16V
C682		1-126-933-11	ELECT 100UF	20.00% 16V
C683		1-126-971-11	ELECT 470UF	20.00% 50V
C684	⚠	1-161-964-91	CERAMIC 0.0047UF	250V
C685	⚠	1-161-964-91	CERAMIC 0.0047UF	250V
C686		1-126-934-11	ELECT 220UF	20.00% 16V
C690		1-126-933-11	ELECT 100UF	20.00% 16V
C692		1-163-021-91	CERAMIC CHIP 0.01UF	10.00% 50V
C696		1-126-947-11	ELECT 47UF	20.00% 35V
C697	⚠	1-165-529-31	MYLAR 0.22UF	10 0V
C698		1-126-933-11	ELECT 100UF	20.00% 16V
C699		1-126-965-91	ELECT 22UF	20.00% 50V
C900		1-117-720-11	CERAMIC CHIP 4.7UF	10V
C901		1-117-720-11	CERAMIC CHIP 4.7UF	10V
C902		1-126-957-11	ELECT 0.22UF	20.00% 50V
C906		1-164-346-11	CERAMIC CHIP 1UF	16V
C910		1-164-315-11	CERAMIC CHIP 470PF	5.00% 50V
C911		1-164-315-11	CERAMIC CHIP 470PF	5.00% 50V
C922		1-126-964-11	ELECT 10UF	20.00% 50V
C925		1-164-315-11	CERAMIC CHIP 470PF	5.00% 50V
C938		1-162-970-11	CERAMIC CHIP 0.01UF	10.00% 25V
C939		1-164-315-11	CERAMIC CHIP 470PF	5.00% 50V
C940		1-164-315-11	CERAMIC CHIP 470PF	5.00% 50V
C946		1-164-315-11	CERAMIC CHIP 470PF	5.00% 50V
C947		1-164-315-11	CERAMIC CHIP 470PF	5.00% 50V
C956		1-126-933-11	ELECT 100UF	20.00% 16V
C961		1-126-957-11	ELECT 0.22UF	20.00% 50V
C962		1-164-505-11	CERAMIC CHIP 2.2UF	16V
C967		1-164-505-11	CERAMIC CHIP 2.2UF	16V
C973		1-126-964-11	ELECT 10UF	20.00% 50V
C974		1-126-964-11	ELECT 10UF	20.00% 50V
C5073		1-106-375-12	MYLAR 0.022UF	5.00% 200V
C5075		1-162-964-11	CERAMIC CHIP 0.001UF	10.00% 50V
C5078		1-164-346-11	CERAMIC CHIP 1UF	16V
C5082		1-164-346-11	CERAMIC CHIP 1UF	16V
C5083		1-164-346-11	CERAMIC CHIP 1UF	16V
C5091		1-164-315-11	CERAMIC CHIP 470PF	5.00% 50V
			< CONNECTOR >	
CN004		*1-564-510-11	PLUG, CONNECTOR 7P	
CN014		*1-564-510-11	PLUG, CONNECTOR 7P	
CN100		1-695-915-11	TAB (CONTACT)	
CN202		*1-564-509-11	PLUG, CONNECTOR 6P	
CN505		*1-564-507-11	PLUG, CONNECTOR 4P	
CN507		*1-564-510-11	PLUG, CONNECTOR 7P	
CN600	⚠	*1-580-843-11	PIN, CONNECTOR (POWER)	
CN601	⚠	1-508-765-13	PIN, CONNECTOR (5MM PITCH) 3P	
CN602	⚠	*1-508-786-00	PIN, CONNECTOR (5MM PITCH) 2P	
CN605	⚠	*1-691-960-11	PIN, CONNECTOR (PC BOARD) 3P	
CN901		*1-817-073-21	CONNECTOR, DUAL SCART	
CN904		*1-564-520-11	PLUG, CONNECTOR 5P	
CN906		*1-564-508-11	PLUG, CONNECTOR 5P	
			< DIODE >	
D002		8-719-081-97	DIODE MMDL914T1	
D003		8-719-081-97	DIODE MMDL914T1	
D006		8-719-081-97	DIODE MMDL914T1	
D057		8-719-081-97	DIODE MMDL914T1	
D058		8-719-081-97	DIODE MMDL914T1	
D059		8-719-081-97	DIODE MMDL914T1	
D060		8-719-056-84	DIODE UDZ-TE-17-7.5B	
D061		8-719-081-97	DIODE MMDL914T1	
D062		8-719-036-94	DIODE RD5.6SB-T1	
D064		8-719-036-94	DIODE RD5.6SB-T1	
D065		8-719-036-94	DIODE RD5.6SB-T1	
D066		8-719-081-97	DIODE MMDL914T1	
D068		8-719-036-94	DIODE RD5.6SB-T1	
D071		8-719-081-97	DIODE MMDL914T1	
D072		8-719-081-97	DIODE MMDL914T1	
D073		8-719-081-97	DIODE MMDL914T1	
D101		8-719-066-11	DIODE 1PS184-115	
D103		8-719-982-26	DIODE MTZJ-33B	
D108		8-719-036-94	DIODE RD5.6SB-T1	
D109		8-719-036-94	DIODE RD5.6SB-T1	
D200		8-719-914-42	DIODE DA204K	
D201		8-719-081-97	DIODE MMDL914T1	
D202		8-719-081-97	DIODE MMDL914T1	
D203		8-719-081-97	DIODE MMDL914T1	
D204		8-719-081-97	DIODE MMDL914T1	
D205		8-719-081-97	DIODE MMDL914T1	
D212		8-719-081-97	DIODE MMDL914T1	
D213		8-719-081-97	DIODE MMDL914T1	

Note : The components identified by shading and marked ⚠ are critical for safety. Replace only with the part numbers specified in the parts list.

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REF.NO.	PART.NO	DESCRIPTION	REMARK
D356	8-719-081-97	DIODE MMDL914T1	
D504	8-719-302-43	DIODE EL1Z	
D509	8-719-036-94	DIODE RD5.6SB-T1	
D513	8-719-075-05	DIODE FR104-A5	
D517	8-719-945-80	DIODE ERC06-15S	
D519	8-719-945-80	DIODE ERC06-15S	
D521	8-719-302-43	DIODE EL1Z	
D522	8-719-028-45	DIODE D2L20U	
D523	8-719-302-43	DIODE EL1Z	
D527	8-719-075-05	DIODE FR104-A5	
D528	8-719-075-05	DIODE FR104-A5	
D529	8-719-991-33	DIODE 1SS133T-77	
D530	8-719-923-60	DIODE MTZJ-T-77-9.1A	
D532	8-719-081-97	DIODE MMDL914T1	
D536	8-719-109-89	DIODE RD5.6ESB2	
D537	8-719-081-97	DIODE MMDL914T1	
D545	8-719-081-97	DIODE MMDL914T1	
D547	8-719-991-33	DIODE 1SS133T-77	
D548	8-719-991-33	DIODE 1SS133T-77	
D600	8-719-911-19	DIODE 1SS119-25	
D607	8-719-510-53	DIODE D4SB60L	
D622	8-719-923-86	DIODE MTZJ-T-77-15	
D625	8-719-979-64	DIODE UF4005/23	
D626	8-719-923-86	DIODE MTZJ-T-77-15	
D629	8-719-082-03	DIODE MM3Z15VT1	
D631	8-719-082-03	DIODE MM3Z15VT1	
D633	6-500-567-21	DIODE 10ERB20-TB5	
D635	8-719-062-40	DIODE D4SBL20UF3	
D636	8-719-510-12	DIODE D10SC4M	
D637	8-719-052-92	DIODE D10SBS4F	
D638	8-719-510-12	DIODE D10SC4M	
D640	8-719-110-47	DIODE RD18ESB	
D644	8-719-081-97	DIODE MMDL914T1	
D647	6-500-567-21	DIODE 10ERB20-TB5	
D648	6-500-582-01	DIODE KBP153G-A2	
D657	8-719-081-97	DIODE MMDL914T1	
D658	8-719-083-82	DIODE UDZS-TE17-12B	
D661	8-719-923-86	DIODE MTZJ-T-77-15	
D662	8-719-072-70	DIODE MA2ZD14001S0	
D663	8-719-081-97	DIODE MMDL914T1	
D664	8-719-991-33	DIODE 1SS133T-77	
D665	8-719-083-73	DIODE UDZSTE-1736B	
D666	8-719-081-97	DIODE MMDL914T1	
D667	8-719-081-97	DIODE MMDL914T1	
D668	8-719-081-97	DIODE MMDL914T1	
D900	8-719-036-94	DIODE RD5.6SB-T1	
D901	8-719-069-60	DIODE UDZSTE-179.1B	
D905	8-719-069-60	DIODE UDZSTE-179.1B	
D907	8-719-069-55	DIODE UDZSTE-175.6B	
D908	8-719-069-55	DIODE UDZSTE-175.6B	

REF.NO.	PART.NO	DESCRIPTION	REMARK
D911	8-719-069-55	DIODE UDZSTE-175.6B	
D912	8-719-069-55	DIODE UDZSTE-175.6B	
D913	8-719-069-55	DIODE UDZSTE-175.6B	
D918	8-719-069-55	DIODE UDZSTE-175.6B	
D922	8-719-069-55	DIODE UDZSTE-175.6B	
D927	8-719-069-55	DIODE UDZSTE-175.6B	
D929	8-719-069-60	DIODE UDZSTE-179.1B	
D933	8-719-069-60	DIODE UDZSTE-179.1B	
D934	8-719-069-60	DIODE UDZSTE-179.1B	
D5007	8-719-081-97	DIODE MMDL914T1	
D5018	8-719-053-32	DIODE FMU-G16S	
D5019	8-719-069-55	DIODE UDZSTE-175.6B	
D5020	8-719-069-55	DIODE UDZSTE-175.6B	
D5022	8-719-036-94	DIODE RD5.6SB-T1	
D5023	8-719-069-55	DIODE UDZSTE-175.6B	
D5024	8-719-069-55	DIODE UDZSTE-175.6B	
D5025	8-719-069-55	DIODE UDZSTE-175.6B	
		< DEFLECTION YOKE >	
DY1	*1-580-798-11	CONNECTOR PIN (DY) 6P	
		< FERRITE BEAD >	
FB001	1-469-981-21	FERRITE 0UH	
FB002	1-469-981-21	FERRITE 0UH	
FB003	1-469-981-21	FERRITE 0UH	
FB004	1-469-981-21	FERRITE 0UH	
FB100	1-414-229-11	FERRITE 0UH	
FB600 ⚠	1-412-911-31	FERRITE 0UH	
FB601	1-412-911-31	FERRITE 0UH	
FB602	1-412-911-31	FERRITE 0UH	
FB902	1-469-869-21	FERRITE 0UH	
FB903	1-414-229-11	FERRITE 0UH	
FB904	1-414-229-11	FERRITE 0UH	
		< FILTER >	
FL600	1-469-579-11	FERRITE 0.45UH	
FL601	1-469-579-11	FERRITE 0.45UH	
FL602 ⚠	1-533-597-41	IC LINK 5A 90V	
FL603 ⚠	1-533-597-41	IC LINK 5A 90V	
FL604	1-469-579-11	FERRITE 0.45UH	
FL605	1-469-579-11	FERRITE 0.45UH	
FL606	1-469-579-11	FERRITE 0.45UH	
FL607	1-469-579-11	FERRITE 0.45UH	
		< IC >	
IC001	6-708-063-01	IC TDA12027H1/N1E8B	
IC003	6-704-004-01	IC BR24L16F-WE2	
IC200	6-706-985-01	IC AN17808A	
IC502	8-759-700-07	IC NJM2903M	

Note : The components identified by shading and marked ⚠ are critical for safety. Replace only with the part numbers specified in the parts list.

A

REF.NO.		PART.NO	DESCRIPTION	REMARK
IC503		6-708-394-01	IC STV9325	
IC602		6-705-810-01	IC MCZ3001DB	
IC603		6-704-264-01	IC EK1135	
IC604		8-759-701-59	IC NJM78M09FA	
IC605		6-707-345-01	IC KIA78D33F	
IC606		6-703-478-01	IC PQ018EF01SSH	
IC607		6-707-344-01	IC KIA78R05API	
IC610		6-702-987-01	IC BA18BC0WFP-E2	
			< COIL >	
L003		1-414-856-11	INDUCTOR 10UH	
L004		1-414-187-11	INDUCTOR 47UH	
L005		1-469-525-91	INDUCTOR 10UH	
L006		1-414-856-11	INDUCTOR 10UH	
L007		1-414-856-11	INDUCTOR 10UH	
L008		1-414-856-11	INDUCTOR 10UH	
L009		1-414-856-11	INDUCTOR 10UH	
L010		1-469-525-91	INDUCTOR 10UH	
L011		1-412-058-11	INDUCTOR 10UH	
L012		1-469-525-91	INDUCTOR 10UH	
L013		1-469-525-91	INDUCTOR 10UH	
L031		1-469-525-91	INDUCTOR 10UH	
L032		1-469-525-91	INDUCTOR 10UH	
L033		1-469-525-91	INDUCTOR 10UH	
L035		1-469-525-91	INDUCTOR 10UH	
L036		1-469-525-91	INDUCTOR 10UH	
L037		1-469-525-91	INDUCTOR 10UH	
L038		1-414-856-11	INDUCTOR 10UH	
L039		1-414-158-11	INDUCTOR 2.2UH	
L040		1-414-922-31	INDUCTOR 330UH	
L100		1-414-857-11	INDUCTOR 100UH	
L106		1-414-189-31	INDUCTOR 100UH	
L507		1-419-633-21	INDUCTOR 10MH	
L511		1-406-977-21	INDUCTOR 100UH	
L513		1-412-551-31	INDUCTOR 1.5MH	
L514		1-408-947-00	INDUCTOR 2.2MH	
L515		1-459-104-00	COIL, WITH CORE	
L518		1-414-187-11	INDUCTOR 47UH	
L600		1-412-531-31	INDUCTOR 33UH	
L690		1-412-525-31	INDUCTOR 10UH	
L902		1-414-187-11	INDUCTOR 47UH	
L903		1-410-993-42	INDUCTOR 1UH	
L904		1-410-993-42	INDUCTOR 1UH	
L906		1-412-001-31	INDUCTOR 3.9UH	
L908		1-410-989-11	INDUCTOR 0.47UH	
L909		1-412-979-21	INDUCTOR 1UH	
L910		1-412-979-21	INDUCTOR 1UH	

REF.NO.		PART.NO	DESCRIPTION	REMARK
			< PHOTOCOUPLER >	
PH601	⚠	8-749-924-35	PHOTO COUPLER ON3171-R	
			< PROTECTOR MODULE >	
PS600	⚠	1-533-597-41	IC LINK 5A 90V	
PS601	⚠	1-533-597-41	IC LINK 5A 90V	
PS602	⚠	1-533-597-41	IC LINK 5A 90V	
PS603	⚠	1-533-597-41	IC LINK 5A 90V	
			< TRANSISTOR >	
Q001		8-729-421-22	TRANSISTOR UN2211	
Q013		8-729-010-25	TRANSISTOR MSD601-RT1	
Q015		8-729-421-22	TRANSISTOR UN2211	
Q016		8-729-010-25	TRANSISTOR MSD601-RT1	
Q017		8-729-010-25	TRANSISTOR MSD601-RT1	
Q018		8-729-421-22	TRANSISTOR UN2211	
Q100		8-729-010-25	TRANSISTOR MSD601-RT1	
Q105		8-729-424-67	TRANSISTOR UN2216	
Q106		8-729-424-67	TRANSISTOR UN2216	
Q202		8-729-010-05	TRANSISTOR MSB709-RT1	
Q203		8-729-010-25	TRANSISTOR MSD601-RT1	
Q300		8-729-010-05	TRANSISTOR MSB709-RT1	
Q505		8-729-931-45	TRANSISTOR IRF614	
Q506		6-551-129-01	TRANSISTOR 2SK3462	
Q511		6-550-845-01	TRANSISTOR TT2142	
Q512		8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q513		8-729-010-05	TRANSISTOR MSB709-RT1	
Q515		8-729-010-25	TRANSISTOR MSD601-RT1	
Q516		8-729-200-17	TRANSISTOR 2SA1091-O	
Q600		8-729-010-25	TRANSISTOR MSD601-RT1	
Q607		6-551-302-11	TRANSISTOR 2SK3561	
Q608		6-551-302-11	TRANSISTOR 2SK3561	
Q609		8-729-016-42	TRANSISTOR KTC3199GR-TP	
Q612		8-729-010-25	TRANSISTOR MSD601-RT1	
Q613		8-729-010-05	TRANSISTOR MSB709-RT1	
Q614		8-729-421-22	TRANSISTOR UN2211	
Q617		8-729-010-05	TRANSISTOR MSB709-RT1	
Q618		8-729-010-05	TRANSISTOR MSB709-RT1	
Q900		8-729-010-05	TRANSISTOR MSB709-RT1	
Q901		8-729-424-67	TRANSISTOR UN2216	
Q902		8-729-424-67	TRANSISTOR UN2216	
Q903		8-729-010-25	TRANSISTOR MSD601-RT1	
Q908		8-729-424-67	TRANSISTOR UN2216	
Q909		8-729-424-67	TRANSISTOR UN2216	
			< RESISTOR >	
JR1081		1-216-864-11	SHORT CHIP 0	
JR1181		1-216-864-11	SHORT CHIP 0	
JR1182		1-216-864-11	SHORT CHIP 0	

REF.NO.	PART.NO	DESCRIPTION			REMARK
JR1582	1-216-295-91	SHORT CHIP	0		
JR1681	1-216-864-11	SHORT CHIP	0		
JR1683	1-216-864-11	SHORT CHIP	0		
JR1684	1-216-864-11	SHORT CHIP	0		
JR1980	1-216-864-11	SHORT CHIP	0		
R001	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R002	1-216-809-11	METAL CHIP	100	5%	1/10W
R003	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R004	1-216-809-11	METAL CHIP	100	5%	1/10W
R006	1-216-809-11	METAL CHIP	100	5%	1/10W
R007	1-216-842-11	METAL CHIP	56K	5%	1/10W
R010	1-216-833-11	METAL CHIP	10K	5%	1/10W
R011	1-216-809-11	METAL CHIP	100	5%	1/10W
R012	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R014	1-216-809-11	METAL CHIP	100	5%	1/10W
R015	1-218-851-11	METAL CHIP	1.5K	0.5%	1/10W
R023	1-216-823-11	METAL CHIP	1.5K	5%	1/10W
R025	1-216-809-11	METAL CHIP	100	5%	1/10W
R026	1-216-809-11	METAL CHIP	100	5%	1/10W
R029	1-216-809-11	METAL CHIP	100	5%	1/10W
R030	1-216-809-11	METAL CHIP	100	5%	1/10W
R038	1-216-809-11	METAL CHIP	100	5%	1/10W
R039	1-216-809-11	METAL CHIP	100	5%	1/10W
R041	1-216-809-11	METAL CHIP	100	5%	1/10W
R042	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R044	1-216-834-11	METAL CHIP	12K	5%	1/10W
R045	1-216-809-11	METAL CHIP	100	5%	1/10W
R046	1-216-809-11	METAL CHIP	100	5%	1/10W
R048	1-216-809-11	METAL CHIP	100	5%	1/10W
R051	1-218-885-11	METAL CHIP	39K	0.5%	1/10W
R056	1-216-821-11	METAL CHIP	1K	5%	1/10W
R058	1-216-864-11	SHORT CHIP	0		
R060	1-216-809-11	METAL CHIP	100	5%	1/10W
R061	1-216-819-11	METAL CHIP	680	5%	1/10W
R088	1-216-816-11	METAL CHIP	390	5%	1/10W
R095	1-216-864-11	SHORT CHIP	0		
R096	1-216-813-11	METAL CHIP	220	5%	1/10W
R097	1-216-813-11	METAL CHIP	220	5%	1/10W
R099	1-216-813-11	METAL CHIP	220	5%	1/10W
R100	1-216-821-11	METAL CHIP	1K	5%	1/10W
R115	1-216-809-11	METAL CHIP	100	5%	1/10W
R116	1-216-809-11	METAL CHIP	100	5%	1/10W
R118	1-216-809-11	METAL CHIP	100	5%	1/10W
R121	1-215-925-11	METAL OXIDE	22K	5%	3W
R122	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R124	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R125	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R130	1-216-809-11	METAL CHIP	100	5%	1/10W
R200	1-216-832-11	METAL CHIP	8.2K	5%	1/10W
R201	1-216-827-11	METAL CHIP	3.3K	5%	1/10W
R202	1-216-830-11	METAL CHIP	5.6K	5%	1/10W
R203	1-216-832-11	METAL CHIP	8.2K	5%	1/10W
R204	1-216-827-11	METAL CHIP	3.3K	5%	1/10W
R205	1-216-830-11	METAL CHIP	5.6K	5%	1/10W
R207	1-218-867-11	METAL CHIP	6.8K	0.5%	1/10W
R208	1-218-867-11	METAL CHIP	6.8K	0.5%	1/10W
R210	1-216-835-11	METAL CHIP	15K	5%	1/10W
R211	1-216-835-11	METAL CHIP	15K	5%	1/10W
R212	1-216-864-11	SHORT CHIP	0		
R217	1-249-411-11	CARBON	330	5%	1/4W
R218	1-216-864-11	SHORT CHIP	0		
R219	1-249-411-11	CARBON	330	5%	1/4W
R220	1-216-864-11	SHORT CHIP	0		
R221	1-216-821-11	METAL CHIP	1K	5%	1/10W
R229	1-216-839-11	METAL CHIP	33K	5%	1/10W
R230	1-216-833-11	METAL CHIP	10K	5%	1/10W
R234	1-249-401-11	CARBON	47	5%	1/4W
R235	1-249-401-11	CARBON	47	5%	1/4W
R236	1-216-833-11	METAL CHIP	10K	5%	1/10W
R237	1-216-809-11	METAL CHIP	100	5%	1/10W
R238	1-216-809-11	METAL CHIP	100	5%	1/10W
R240	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R241	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R242	1-216-837-11	METAL CHIP	22K	5%	1/10W
R300	1-216-821-11	METAL CHIP	1K	5%	1/10W
R301	1-216-861-11	METAL CHIP	2.2M	5%	1/10W
R303	1-216-857-11	METAL CHIP	1M	5%	1/10W
R304	1-216-855-11	METAL CHIP	680K	5%	1/10W
R305	1-216-864-11	SHORT CHIP	0		
R306	1-218-849-11	METAL CHIP	1.2K	0.5%	1/10W
R309	1-216-857-11	METAL CHIP	1M	5%	1/10W
R310	1-216-818-11	METAL CHIP	560	5%	1/10W
R311	1-216-841-11	METAL CHIP	47K	5%	1/10W
R312	1-216-846-11	METAL CHIP	120K	5%	1/10W
R313	1-216-846-11	METAL CHIP	120K	5%	1/10W
R314	1-218-863-11	METAL CHIP	4.7K	0.5%	1/10W
R315	1-218-863-11	METAL CHIP	4.7K	0.5%	1/10W
R316	1-218-867-11	METAL CHIP	6.8K	0.5%	1/10W
R317	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R322	1-216-864-11	SHORT CHIP	0		
R323	1-216-809-11	METAL CHIP	100	5%	1/10W
R336	1-216-833-11	METAL CHIP	10K	5%	1/10W
R337	1-216-817-11	METAL CHIP	470	5%	1/10W
R338	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R339	1-216-809-11	METAL CHIP	100	5%	1/10W
R340	1-216-833-11	METAL CHIP	10K	5%	1/10W
R341	1-216-809-11	METAL CHIP	100	5%	1/10W
R355	1-216-837-11	METAL CHIP	22K	5%	1/10W
R360	1-218-877-11	METAL CHIP	18K	0.5%	1/10W
R361	1-216-830-11	METAL CHIP	5.6K	5%	1/10W

Note : The components identified by shading and marked ⚠ are critical for safety. Replace only with the part numbers specified in the parts list.

A

REF.NO.		PART.NO	DESCRIPTION			REMARK
R363		1-218-859-11	METAL CHIP	3.3K	0.5%	1/10W
R364		1-216-817-11	METAL CHIP	470	5%	1/10W
R365		1-216-864-11	SHORT CHIP	0		
R379		1-216-809-11	METAL CHIP	100	5%	1/10W
R380		1-216-809-11	METAL CHIP	100	5%	1/10W
R381		1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R382		1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R387		1-216-809-11	METAL CHIP	100	5%	1/10W
R388		1-216-843-11	METAL CHIP	68K	5%	1/10W
R389		1-216-809-11	METAL CHIP	100	5%	1/10W
R390		1-216-857-11	METAL CHIP	1M	5%	1/10W
R392		1-216-809-11	METAL CHIP	100	5%	1/10W
R395		1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R397		1-216-845-11	METAL CHIP	100K	5%	1/10W
R399		1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R500		1-216-821-11	METAL CHIP	1K	5%	1/10W
R505		1-218-895-11	METAL CHIP	100K	0.5%	1/10W
R506		1-218-879-11	METAL CHIP	22K	0.5%	1/10W
R507		1-249-389-11	CARBON	4.7	5%	1/4W
R508		1-216-471-71	METAL OXIDE	27	5%	3W
R509		1-243-527-71	METAL OXIDE	47	5%	3W
R510		1-243-527-71	METAL OXIDE	47	5%	3W
R511		1-243-525-71	METAL OXIDE	33	5%	3W
R515		1-243-531-71	METAL OXIDE	100	5%	3W
R519		1-243-535-71	METAL OXIDE	220	5%	3W
R520		1-218-867-11	METAL CHIP	6.8K	0.5%	1/10W
R522		1-218-867-11	METAL CHIP	6.8K	0.5%	1/10W
R525		1-245-478-21	METAL	470K	1%	1/4W
R526		1-218-863-11	METAL CHIP	4.7K	0.5%	1/10W
R533		1-249-417-11	CARBON	1K	5%	1/4W
R534		1-216-864-11	SHORT CHIP	0		
R535		1-216-809-11	METAL CHIP	100	5%	1/10W
R539		1-216-049-11	RES-CHIP	1K	5%	1/10W
R542		1-216-833-11	METAL CHIP	10K	5%	1/10W
R543		1-216-437-00	METAL OXIDE	5.6K	5%	1W
R546		1-216-864-11	SHORT CHIP	0		
R549		1-215-449-00	METAL	15K	1%	1/4W
R550		1-216-864-11	SHORT CHIP	0		
R551		1-215-447-00	METAL	12K	1%	1/4W
R552		1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R553		1-215-449-00	METAL	15K	1%	1/4W
R554		1-215-449-00	METAL	15K	1%	1/4W
R555		1-215-873-00	METAL OXIDE	4.7K	5%	1W
R556		1-218-859-11	METAL CHIP	3.3K	0.5%	1/10W
R560		1-216-833-11	METAL CHIP	10K	5%	1/10W
R562		1-249-401-11	CARBON	47	5%	1/4W
R565		1-216-836-11	METAL CHIP	18K	5%	1/10W
R567		1-216-849-11	METAL CHIP	220K	5%	1/10W
R568		1-249-383-11	CARBON	1.5	5%	1/4W
R570		1-218-867-11	METAL CHIP	6.8K	0.5%	1/10W
R571		1-218-863-11	METAL CHIP	4.7K	0.5%	1/10W
R573		1-216-838-11	METAL CHIP	27K	5%	1/10W
R577		1-215-888-00	METAL OXIDE	220	5%	2W
R578		1-216-369-00	METAL OXIDE	1	5%	2W
R579		1-215-916-71	METAL OXIDE	680	5%	3W
R580		1-218-861-11	METAL CHIP	3.9K	0.5%	1/10W
R581		1-218-871-11	METAL CHIP	10K	0.5%	1/10W
R582		1-218-915-11	METAL CHIP	680K	0.5%	1/10W
R585		1-249-385-11	CARBON	2.2	5%	1/4W
R587		1-218-915-11	METAL CHIP	680K	0.5%	1/10W
R588		1-243-535-71	METAL OXIDE	220	5%	3W
R589		1-215-888-00	METAL OXIDE	220	5%	2W
R590		1-245-470-21	METAL	220K	1%	1/4W
R591		1-260-288-11	CARBON	0.47	5%	1/2W
R593		1-260-288-11	CARBON	0.47	5%	1/2W
R594		1-260-288-11	CARBON	0.47	5%	1/2W
R596		1-215-916-71	METAL OXIDE	680	5%	3W
R597		1-247-750-11	CARBON	680	5%	1/2W
R599		1-216-838-11	METAL CHIP	27K	5%	1/10W
R601		1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R607		1-216-864-11	SHORT CHIP	0		
R613	⚠	1-247-289-00	METAL	8.2M	5%	1W
R622	⚠	1-240-303-31	CEMENTED	0.22	5%	10W
R642	⚠	1-242-949-11	FUSIBLE	0.1	10%	1W
R651		1-208-774-11	METAL CHIP	470	0.5%	1/10W
R652		1-218-873-11	METAL CHIP	12K	0.5%	1/10W
R653		1-208-758-11	METAL CHIP	100	0.5%	1/10W
R654		1-208-805-11	METAL CHIP	9.1K	0.5%	1/10W
R660		1-216-295-91	SHORT CHIP	0		
R661		1-218-760-11	METAL CHIP	220K	0.5%	1/10W
R662		1-216-639-11	METAL CHIP	330	0.5%	1/10W
R664		1-208-840-11	METAL CHIP	270K	0.5%	1/10W
R669		1-249-417-11	CARBON	1K	5%	1/4W
R670		1-249-393-11	CARBON	10	5%	1/4W
R672		1-208-806-11	METAL CHIP	10K	0.5%	1/10W
R673		1-249-393-11	CARBON	10	5%	1/4W
R675		1-208-806-11	METAL CHIP	10K	0.5%	1/10W
R676		1-217-611-00	METAL	0.1	10%	2W
R677		1-249-418-11	CARBON	1.2K	5%	1/4W
R678		1-249-421-11	CARBON	2.2K	5%	1/4W
R679		1-216-864-11	SHORT CHIP	0		
R681		1-216-833-11	METAL CHIP	10K	5%	1/10W
R687		1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R690		1-249-417-11	CARBON	1K	5%	1/4W
R694		1-208-826-11	METAL CHIP	68K	0.5%	1/10W
R695		1-208-812-11	METAL CHIP	18K	0.5%	1/10W
R696		1-216-864-11	SHORT CHIP	0		
R698		1-216-073-91	RES-CHIP	10K	5%	1/10W
R699		1-216-842-11	METAL CHIP	56K	5%	1/10W
R900		1-216-809-11	METAL CHIP	100	5%	1/10W

Note : The components identified by shading and marked ⚠ are critical for safety. Replace only with the part numbers specified in the parts list.

A

REF.NO.		PART.NO	DESCRIPTION			REMARK
R902		1-216-821-11	METAL CHIP	1K	5%	1/10W
R904		1-216-821-11	METAL CHIP	1K	5%	1/10W
R905		1-216-840-11	METAL CHIP	39K	5%	1/10W
R906		1-216-817-11	METAL CHIP	470	5%	1/10W
R910		1-216-817-11	METAL CHIP	470	5%	1/10W
R911		1-216-805-11	METAL CHIP	47	5%	1/10W
R912		1-216-809-11	METAL CHIP	100	5%	1/10W
R913		1-216-853-11	METAL CHIP	470K	5%	1/10W
R914		1-216-853-11	METAL CHIP	470K	5%	1/10W
R916		1-216-849-11	METAL CHIP	220K	5%	1/10W
R917		1-218-285-11	METAL CHIP	75	5%	1/10W
R918		1-216-805-11	METAL CHIP	47	5%	1/10W
R919		1-218-285-11	METAL CHIP	75	5%	1/10W
R924		1-216-853-11	METAL CHIP	470K	5%	1/10W
R926		1-216-809-11	METAL CHIP	100	5%	1/10W
R927		1-216-809-11	METAL CHIP	100	5%	1/10W
R928		1-218-285-11	METAL CHIP	75	5%	1/10W
R929		1-218-285-11	METAL CHIP	75	5%	1/10W
R930		1-218-285-11	METAL CHIP	75	5%	1/10W
R931		1-216-807-11	METAL CHIP	68	5%	1/10W
R948		1-216-839-11	METAL CHIP	33K	5%	1/10W
R950		1-216-833-11	METAL CHIP	10K	5%	1/10W
R967		1-216-853-11	METAL CHIP	470K	5%	1/10W
R970		1-216-853-11	METAL CHIP	470K	5%	1/10W
R973		1-216-809-11	METAL CHIP	100	5%	1/10W
R974		1-216-809-11	METAL CHIP	100	5%	1/10W
R975		1-216-809-11	METAL CHIP	100	5%	1/10W
R992		1-216-817-11	METAL CHIP	470	5%	1/10W
R993		1-216-817-11	METAL CHIP	470	5%	1/10W
R997		1-216-813-11	METAL CHIP	220	5%	1/10W
R1001		1-218-285-11	METAL CHIP	75	5%	1/10W
R1019		1-218-285-11	METAL CHIP	75	5%	1/10W
R2644		1-249-389-11	CARBON	4.7	5%	1/4W
R5000		1-216-837-11	METAL CHIP	22K	5%	1/10W
R5001		1-216-841-11	METAL CHIP	47K	5%	1/10W
R5002		1-216-833-11	METAL CHIP	10K	5%	1/10W
R5003		1-218-863-11	METAL CHIP	4.7K	0.5%	1/10W
R5005		1-216-809-11	METAL CHIP	100	5%	1/10W
R5006		1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R5008		1-216-845-11	METAL CHIP	100K	5%	1/10W
R5009		1-216-853-11	METAL CHIP	470K	5%	1/10W
R5010		1-216-833-11	METAL CHIP	10K	5%	1/10W
R5011		1-216-828-11	METAL CHIP	3.9K	5%	1/10W
R5012		1-216-835-11	METAL CHIP	15K	5%	1/10W
R5013		1-216-861-11	METAL CHIP	2.2M	5%	1/10W
R5014		1-216-861-11	METAL CHIP	2.2M	5%	1/10W
R5015		1-208-830-11	METAL CHIP	100K	0.5%	1/10W
R5016		1-216-833-11	METAL CHIP	10K	5%	1/10W
R5020		1-216-389-11	METAL OXIDE	1	5%	3W
R5021		1-216-655-11	METAL CHIP	1.5K	0.5%	1/10W
R5022		1-245-472-21	METAL	270K	1%	1/4W
R5023		1-247-891-00	CARBON	330K	5%	1/4W
R5024		1-216-845-11	METAL CHIP	100K	5%	1/10W
R5025		1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R5026		1-245-471-21	METAL	240K	1%	1/4W
R5027		1-245-466-21	METAL	150K	1%	1/4W
R5028		1-218-859-11	METAL CHIP	3.3K	0.5%	1/10W
R5031		1-215-454-00	METAL	24K	1%	1/4W
R5032		1-215-916-71	METAL OXIDE	680	5%	3W
R5033		1-216-809-11	METAL CHIP	100	5%	1/10W
R5034		1-216-853-11	METAL CHIP	470K	5%	1/10W
R5036		1-215-449-00	METAL	15K	1%	1/4W
R5050		1-216-864-11	SHORT CHIP	0		
R6000		1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R6001		1-216-821-11	METAL CHIP	1K	5%	1/10W
R6007		1-216-864-11	SHORT CHIP	0		
R6008		1-249-393-11	CARBON	10	5%	1/4W
R6009		1-216-793-11	METAL CHIP	4.7	5%	1/10W
R6012		1-215-882-00	METAL OXIDE	22	5%	2W
R6013		1-208-826-11	METAL CHIP	68K	0.5%	1/10W
R6014	⚠	1-220-797-11	CEMENTED	0.47	5%	10W
R6015	⚠	1-240-303-31	CEMENTED	0.22	5%	10W
R6016		1-247-903-00	CARBON	1M	5%	1/4W
R6017		1-215-857-11	METAL OXIDE	10	5%	1W
R6019		1-247-903-00	CARBON	1M	5%	1/4W
R6020		1-217-159-00	METAL	0.68	10%	5W
R6021		1-216-833-11	METAL CHIP	10K	5%	1/10W
R6022		1-216-835-11	METAL CHIP	15K	5%	1/10W
R6023		1-216-841-11	METAL CHIP	47K	5%	1/10W
R6024		1-216-833-11	METAL CHIP	10K	5%	1/10W
R6025		1-216-835-11	METAL CHIP	15K	5%	1/10W
R6026		1-216-833-11	METAL CHIP	10K	5%	1/10W
R6027		1-216-833-11	METAL CHIP	10K	5%	1/10W
R6028		1-208-840-11	METAL CHIP	270K	0.5%	1/10W
R6029		1-218-760-11	METAL CHIP	220K	0.5%	1/10W
R6031		1-216-809-11	METAL CHIP	100	5%	1/10W
R9017		1-216-809-11	METAL CHIP	100	5%	1/10W
R9020		1-216-809-11	METAL CHIP	100	5%	1/10W
R9021		1-216-809-11	METAL CHIP	100	5%	1/10W
R9062		1-216-821-11	METAL CHIP	1K	5%	1/10W
R9063		1-216-821-11	METAL CHIP	1K	5%	1/10W
R9064		1-216-840-11	METAL CHIP	39K	5%	1/10W
R9067		1-216-864-11	SHORT CHIP	0		
R9070		1-216-864-11	SHORT CHIP	0		
R9073		1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R9074		1-216-809-11	METAL CHIP	100	5%	1/10W
R9075		1-216-821-11	METAL CHIP	1K	5%	1/10W
R9076		1-216-821-11	METAL CHIP	1K	5%	1/10W
R9077		1-216-853-11	METAL CHIP	470K	5%	1/10W
R9078		1-211-981-11	METAL CHIP	33	0.5%	1/10W

Note : The components identified by shading and marked ⚠ are critical for safety. Replace only with the part numbers specified in the parts list.

A

REF.NO.		PART.NO	DESCRIPTION			REMARK
R9079		1-211-981-11	METAL CHIP	33	0.5%	1/10W
R9080		1-216-833-11	METAL CHIP	10K	5%	1/10W
R9081		1-216-839-11	METAL CHIP	33K	5%	1/10W
R9082		1-216-840-11	METAL CHIP	39K	5%	1/10W
R9083		1-216-849-11	METAL CHIP	220K	5%	1/10W
R9084		1-216-809-11	METAL CHIP	100	5%	1/10W
R9085		1-216-809-11	METAL CHIP	100	5%	1/10W
R9086		1-216-840-11	METAL CHIP	39K	5%	1/10W
R9087		1-216-840-11	METAL CHIP	39K	5%	1/10W
R9088		1-216-809-11	METAL CHIP	100	5%	1/10W
R9089		1-216-849-11	METAL CHIP	220K	5%	1/10W
R9090		1-216-849-11	METAL CHIP	220K	5%	1/10W
R9091		1-216-809-11	METAL CHIP	100	5%	1/10W
R9092		1-216-809-11	METAL CHIP	100	5%	1/10W
R9093		1-216-809-11	METAL CHIP	100	5%	1/10W
R9094		1-216-809-11	METAL CHIP	100	5%	1/10W
R9095		1-216-809-11	METAL CHIP	100	5%	1/10W
			< RELAY >			
RY600	⚠	1-755-198-11	RELAY, AC POWER			
RY602	⚠	1-755-395-11	RELAY (AC POWER)			
			< SWITCH >			
S501		1-572-707-11	SWITCH, LEVER			
S502		1-572-707-11	SWITCH, LEVER			
			< SURFACE WAVE FILTER >			
SWF100		1-579-273-11	FILTER, SURFACE WAVE			
SWF101		1-767-873-11	FILTER, SURFACE WAVE			
			< TRANSFORMER >			
T501		1-437-195-51	TRANSFORMER, HORIZONTAL DRIVE			
T503	⚠	8-598-831-01	FBT ASSY, NX-4009			
T504		1-433-850-11	TRANSFORMER, HORIZONTAL LINEAR			
T505		1-426-981-71	TRANSFORMER, FERRITE (PMT)			
T601	⚠	1-443-069-11	CONVERTER TRANSFORMER (PIT)			
T603	⚠	1-437-483-21	TRANSFORMER, STANDBY			
			< THERMISTOR >			
TH600	⚠	1-805-808-11	THERMISTOR, PTC			
			< TUNER >			
TU102		1-693-691-11	TUNER (TEQE2)			
			< VARISTOR >			
VD601	⚠	1-804-995-11	VARISTOR			

REF.NO.	PART.NO	DESCRIPTION	REMARK
		< CRYSTAL >	
X001	1-813-311-21	QUARTS CRYSTAL UNIT	

A Board Variant parts KV-29SE10B

SWF102	1-767-083-11	FILTER, SURFACE WAVE	

A Board Variant parts KV-29SE10E & KV-29SE10K

SWF102	NOT FITTED		

Note : The components identified by shading and marked ⚠ are critical for safety. Replace only with the part numbers specified in the parts list.

REF.NO.	PART.NO	DESCRIPTION	REMARK

MISCELLANEOUS

⚠	1-786-649-12	SWITCH, AC POWER PUSH	
	1-424-733-11	COIL, PFC CHOKE 65MMH	
⚠	1-823-853-13	CORD, POWER	
⚠	1-453-471-11	TRANSFORMER ASSY, FLYBACK (NX-4009//Z2B4)	
	1-693-691-11	TUNER (TEQE2-011A)	
	1-825-691-12	SPEAKER (15X6.5CM)	
⚠	8-451-494-71	DEFLECTION YOKE Y29RSA-L3	
	1-452-896-11	COIL, NA ROTATION (RT-200)	
⚠	1-424-887-12	COIL, DEGAUSSING	
⚠	1-251-715-12	CAP ASSY, HIGH-VOLTAGE	
⚠	8-735-246-05	PICTURE TUBE (M68LNH060X)	
	1-452-014-11	CIRCULAR DISC MAGNET B	
	1-452-032-00	MAGNET,DISC	

ACCESSORIES AND PACKAGING MATERIALS

*2-635-634-01	CUSHION UPPER	
*2-635-635-01	CUSHION LOWER	
*4-088-869-11	BAG, PROTECTION	
*2-636-954-01	INDIVIDUAL CARTON	
2-635-636-01	INSTRUCTION MANUAL(KV-29SE10B) (GERMAN/FRENCH/ITALIAN/DUTCH)	
2-636-968-11	INSTRUCTION MANUAL(00)(KV-29SE10E) (GERMAN/GREEK/TURKISH)	
2-636-969-11	INSTRUCTION MANUAL(03)(KV-29SE10E)(ITALIAN)	
2-636-970-11	INSTRUCTION MANUAL(05)(KV-29SE10E) (DANISH/SPANISH/FINNISH/NORWEGIAN/ PORTUGUESE/SWEDISH)	
2-636-974-11	INSTRUCTION MANUAL(KV-29SE10K) (BULGARIAN/CZECH/ENGLISH/HUNGARIAN/POLISH/ RUSSIAN/SLOVAK)	

REMOTE COMMANDER

1-479-428-11	REMOTE COMMANDER (RM-EA005)	

TRACE

A new TV Repair Assistance Tool that combines ease of use and powerful PC software tools to allow you to save valuable time during many TV repairs.

The TRACE interface connects to the PC's serial port. It provides connection to the TV's I^2C bus and can be provided with an InfraRed transmitter (optional).

The interface is powered by a standard 9 V PP3 battery for portable use, and can also be powered by an external 9V/25mA DC power supply.

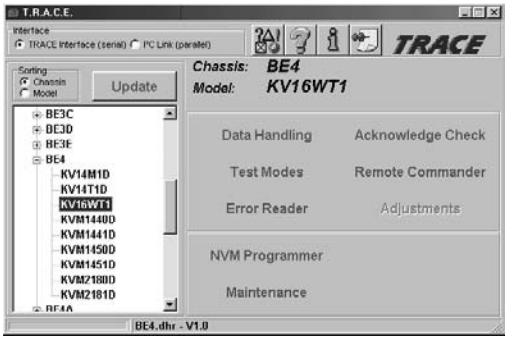
The TRACE software that is supplied with the interface allows you to:

- Read, restore and compare NVM contents via the I^2C bus
- Acknowledge check of all I^2C devices in the TV set
- Read Error Codes (emulation of the Error Reader tool)

With the optional IR Add-on kit, the following features can be added:

- Remote Commander emulation
- User programmable Functional Check through Infrared
- Fast and documented Test Mode setting of all Sony TV chassis

Additional features such as Adjustments and Troubleshooting are available in chassis-dependent software modules. Please contact your local Sony Service organisation for the latest information.



Note: For workshops already using the existing I^2C Link parallel port interface (9-948-320-30), this software can be used as well, replacing the TV Data Handling software (9-948-340-50), but Error Reader and IR functions can only be accessed with the TRACE interface.

Partnumbers:

TRACE Starter Kit (TRACE interface + software):	9-948-320-70
TRACE Software (for users of the I^2C Link interface):	9-948-340-80
TRACE IR Add-on (IR interface + Remote Commander software):	9-948-320-80

PC requirements: IBM-compatible PC with operating system Windows95, Windows98, or WindowsNT*.

* WindowsNT only supported with TRACE interface

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